

Design Web sites that work anywhere

MORE NEWS, MORE REVIEWS

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Macworld

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POWER!

Photoshop power user

Version 6.0 secrets

Making the ultimate
Photoshop Mac

Email masterclass

How to write more effectively

Top scanners rated

Adobe GoLive 5.0

Reviewed and rated





Simon Jary
editor-in-chief

Apple's HomePage iTool is the company's real ace in the pack for beating Microsoft to new customers. But who's heard of it?

For the rest of us

"Apple's killer blow to Windows is given hardly any publicity outside of Macworld and its own Web site"

Back in the early 1980s, the head of the Macintosh-development team and co-founder of Apple Computer (now company CEO) Steve Jobs said that the "insanely great" Mac was going to "put a dent in the universe". However, until recently, the only thing it put a dent in was your wallet. The sound bite that really caught the public's attention was meant specifically for them and not just for journalists. The Mac, the world was told, was the computer "for the rest of us".

Apple's earlier Apple II PC was phenomenally successful because it wasn't aimed solely at computer geeks. It was the original computer "for the rest of us", and, as a result, reigned as the number-one-selling PC for an amazing six years.

The Mac was "for the rest of us" for several reasons. It sported the first mainstream graphical user interface of folders, windows and icons. It was the first mass-produced PC to use a mouse rather than fiddly cursor keys. And its classic lift-me-up, all-in-one design made other PCs look like they belonged in the science lab, not the home study or office.

But, whatever your anti-Windows quibbles, there's no doubt that – at least in the minds of the 'rest of the rest of us' – Apple has been caught at least in terms of user interface and mouse usage. And only in the last couple of years has Apple reclaimed its industrial design crown, following strongly from its iMac translucent plastics.

The iMac was Steve Jobs' first proper new Mac since he returned to head the company in 1997. It is not his vision to re-make the Mac – leave that to the forthcoming Mac OS X. The iMac and G4 Cube are the new computers for "the rest of us" – the many millions of consumers who are still considering buying a personal computer but haven't yet taken the plunge.

Steve knows that nice-looking plastics and cute design can't win over everyone – especially in the face of the steamrolling, if beige, Wintel platform. Like the original Mac, his new Macs need that something extra to make them stand out from the PC crowd.

On top of the looks, that something extra that's getting the entire Apple marketing fizz is desktop video. Nearly all of Apple's TV ads make reference to the Mac's superior consumer digital-video capabilities. There's FireWire connectivity for high-speed links to quality digital camcorders, and bundled free iMovie 2 software that makes movie making something any one of us can do in our homes.

But, for me, Apple's "something extra" "for the rest of us" is not desktop video. It's not even AirPort,

Apple's super wireless-networking technology. In fact, Apple's killer blow to Windows is given hardly any publicity outside of the pages of *Macworld* and Apple's own Web site. The best thing Apple has done for years is iTools.

Not all of iTools is wonderful. KidSafe is too US-centric. And Mac.com – the free email name – is not as free as Microsoft's Hotmail, requiring that you sign up with an Internet Service Provider.

But the remaining two iTools are the best things since the CD drive (another Apple-first for PCs). If your Mac runs OS 9, you can have 20MB of free disk space on Apple's servers courtesy of iDisk. And with that free disk space you can quickly build HomePage Web sites without ever having to know what either the 'H', 'T', 'M', or 'L' stand for in HTML.

Desktop video will be a huge seller for Apple. But right now, more people want to build their own Web sites. Not all these people *know* that that's what they want to do, but, believe me, they do as soon as they see how easy using HomePage and iDisk really is. They'd run a mile from cascading style sheets, frames and BBEdit, but they'd just adore HomePage.

Even though I know the basics of HTML and can use Adobe's GoLive and Macromedia's Dreamweaver Web editors, I've created several Web sites for friends using HomePage. Because Apple has kept so quiet about its Web-creating wonders, everybody thinks that I am an absolute expert at this stuff. Anybody who's taken a look at my own HTML-crafted Web site (the shamefully neglected www.jary.com) will tell you that I am no Web expert.

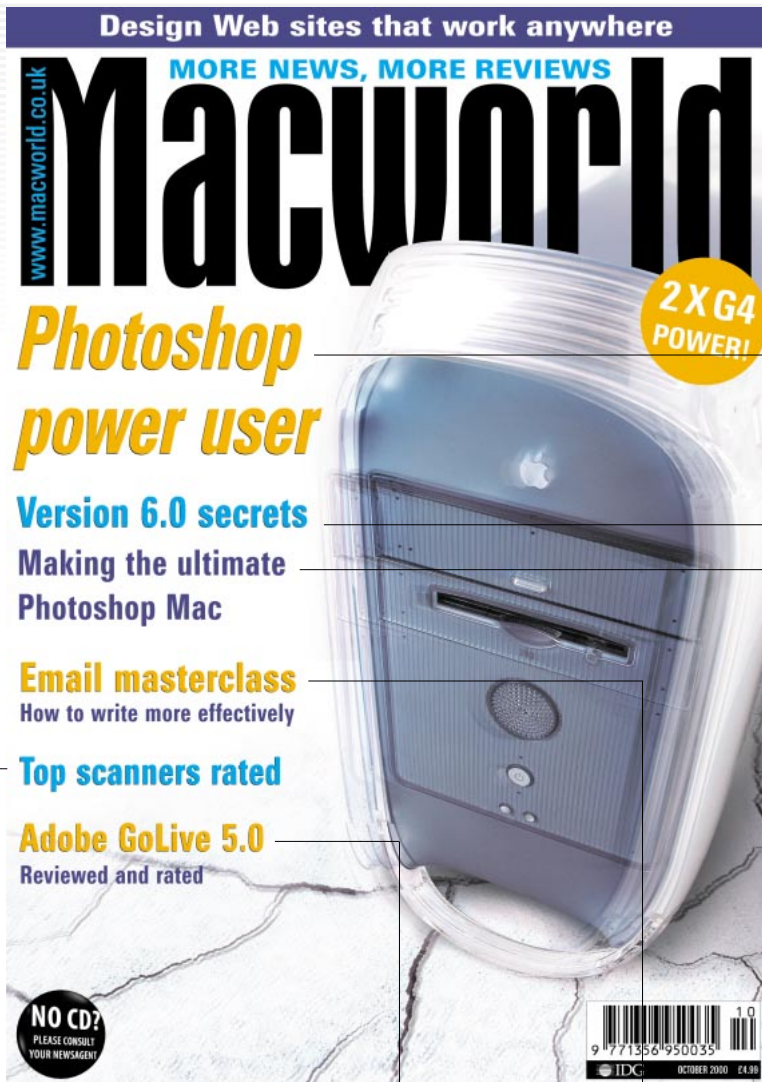
But to most people, my friends' wedding site (<http://homepage.mac.com/benfall/PhotoAlbum.html>) looks professionally designed. The wow-factor in sending someone a URL of your own good-looking HomePage Web site is quite amazing. And if more people were shown just how darn easy the whole process is, Apple would have a real winner on its hands.

Apple has recently made iDisk 300 per cent faster, and revamped HomePage to make it even easier to use and quicker to edit. Publicity? Zero.

Apple must realize the true marketing worth of HomePage. Microsoft has nothing to compare to iTools. And iTools does exactly what people want to do with a personal computer. The latest TVs let you browse the Web. A PC should do more – letting you join in the fun by creating your own Web pages. iTools lets "the rest of us" join in with the Net revolution. If everyone saw its powerful simplicity, maybe the Mac could still "put a dent in the universe". **MW**

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Adobe is set to release version 6.0 of the premier image-editing app – and *Macworld* has previewed the beta. We've also tested Apple's latest **multiprocessing G4 Power Macs** and – with the added feature of **Gigabit Ethernet** raising network speeds by up to 300 per cent – Photoshop users can step on the juice.

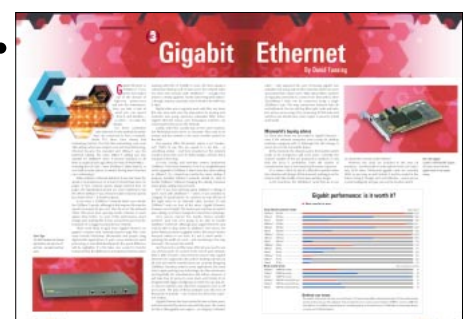
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Secrets of the Mind



Your Star Letter wins a Palm IIIc, worth £349

We reward the best reader letter with this highly recommended Palm handheld computer – with colour display and Mac desktop organizer software. Its lithium-ion battery lasts more than two weeks with normal use, and recharges in your Mac-compatible HotSync cradle in minutes. Write to Letters, Macworld, 99 Gray's Inn Road, London WC1X 8UT. Or email letters@macworld.co.uk



Subject: iMac helpless

Although there is online help with the iMac, I found it less than useful when I got my iMac in December last year, after several years with an Amiga – which had manuals. For a start, the keyboard markings for option and command are alt – which had manuals. For a start, the keyboard markings for option and command are alt – which had manuals. For a start, the keyboard markings for option and command are alt – which had manuals. Frustrating, or what?

Alistair Milne

Subject: Smiths crisp

Certain branches of WH Smith have iMacs with touch-sensitive screens on which you can buy software that is burnt onto a CD at the store (see News, August 2000). On my first go, the iMac crashed. Trying again on another machine, I went through all the steps successfully – but nothing happened. It was a Sunday and there was no one around who could help. The next day I went through the same routine and, again, no CD would appear. This time there was an assistant to help, but even after a phone call he could not sort out the problem. The system is obviously having teething problems. Because of all the inconvenience, Smiths offered to send me the software free of charge.

Tony Watson

Subject: Mac monitor moan

Seeing Apple's new line-up, I was mightily impressed by the G4 Cube, and the G4 minitower's revised specifications. I scurried off to the AppleStore to find out how much a new monitor would

cost me to go with one of these machines. To my astonishment, I discovered that a 17-inch model would cost me £345 plus VAT, which takes the price to £405. This may seem OK to you, but compare this price to other 17-inch models, and it appears that Apple is charging £100 or so just for a nice colour co-ordinated casing. The Mitsubishi Diamond Pro 710, for example, costs a mere £249 plus VAT.

Graeme Warren

MW The new Apple Studio Displays sure are expensive. As we pointed out last month (September 2000), all three are superb quality, but out of reach of many wallets.

Subject: Palm reader

Lesser magazines give away only T-shirts or mousemats for their Star Letters. But the superior and generous Macworld now awards an irresistibly desirable Palm IIIc. Hasn't anyone realized the consequences provoked by such generosity? You will receive so many letters on inane and trivial subjects, and the noble editorial dept will crumble under the ever-increasing strain of separating the waffle from the genuinely interesting.

So, I urge you to put a stop to this by sending me a Palm IIIc now, thus removing my desire and provocation to write.

Tom Bamborough

MW Nice try – a T-shirt's in the post.

Subject: Chooser a choice option

Why does everyone complain about the Chooser? I've been using it since 1992 and have always found it more useful than Network Browser. I can see available network zones in the same window as zoned servers; I can log onto any server or select a printer; I can even see which of my friends has their



Star Letter: cable craziness

It seems that just about everything you buy these days has to have an external power supply. All the publicity for wafer-thin, waffle-sized new products that do wonders end up having a great-big ugly black external power-supply. My house is full of the things. Apple's beautiful Airport Base Station has one of the worst, as well as one of the nastiest cables I've ever seen. It's not even as if these external power supplies are standard from machine to machine. They're all horrible in different ways.

Furthermore, many USB or FireWire products come with a non-standard cable and connector. Instead of the cheap-and-simple USB A-to-B cable, we get something that's USB at one end, but looks like Serial-parallel from Hell at the other. What's supposed to happen if the cable is damaged or lost?

My appeal to product designers would be: give us a product that plugs into a standard wall socket using a kettle lead, and which uses standard connectors, so I can carry it to and from work without worrying about cables and power, and so I can plug and unplug without bending pins and ruining my day.

Robert McMinn

computers turned on.

Lay off the Chooser, or at least explain why you all hate it so much.

Mark Allan

Subject: no-frills email

Wouldn't it be great if somebody offered a simple, no-frills email application to which users could add whatever fancy stuff they need? And a basic text editor and a basic graphics package, both with an evolving series of options. A system which grows with the customer. Get it right and you'd keep customers for life.

Peter Drake

MW Office 2001 might be for you (see Macworld, September 2000). But Mac OS X's free email and word processor might be more what you're looking for. For more details, see www.apple.com/macosx/built-in_apps.html

Subject: Dixons in dock

Is the iMac fighting a losing battle in the sales stakes, despite being the best machine in its class on the market? The

iBook in Dixons, at London's Brent Cross, is labelled as an iMac notebook. Why does Apple allow such ill-informed retailers to sell its products?

Neil Beck

Subject: Mac OS X on cover CD?

I'm sure Macworld readers capable of installing Mac OS X would pay at least £15 for the magazine if you managed to get the public beta from Apple. To download it off the Internet will be impossible, as it will be at least 0.5GB.

Tim Mawhinney

MW We are talking to Apple about this, but haven't had a positive response yet.

Subject: Microsoft's Mac move

Those who worry that Microsoft might abandon the Mac versions of its software will doubtless be pleased to hear that Microsoft's accounts – as published on the Internet – were prepared using MS Office for the Mac!

Jim Delaney

Another packed CD this month, with over 650MB – including the Illustrator 9.0 tryout, plus another 20 demos, a superb Deus Ex playable demo and all the latest shareware, games and updaters. Over to Vic Lennard...

MAIN ITEMS ▼

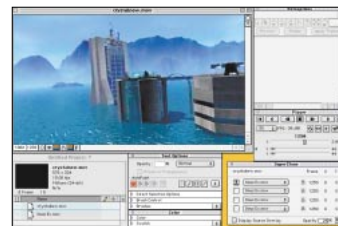


Adobe Illustrator 9.0 Tryout

Adobe Illustrator 9.0 introduces powerful, integrated tools for creating and optimizing Web graphics. Produce Flash SWF and SVG graphics with smaller file sizes. Even export layers as SWF frames to create Flash animations quickly. Output vector illustrations in standard Web-raster formats, using sophisticated compression controls. Preview and adjust how vector artwork will look rasterized in Web browsers. Apply editable drop-shadows and glows, as well as shapes that resize automatically, to both text and objects.

It also delivers flexible transparency capabilities. Apply transparency to any layer or object, including type, raster images, and spot colours, and then print, with reliable results.

This version includes most of the creative features of the full application but you cannot save, export or print.



Deus Ex Machina

Immerse yourself in this futuristic role-playing adventure game. Based on the Unreal Tournament engine, play it as a strategic problem solver – pick locks, sneak past guards in the dark and hack computer systems; or try frontal assaults with bullets and rockets blazing.

The demo includes the training level and the first mission, plus briefing.

Requires 266MHz G3 with ATI Rage Pro, 230MB hard-disk space, 128MB RAM (plus VM), Mac OS 8.1 or later, and QuickTime 4.0.



Commotion 3.0

Commotion 3.0 is just what you need for all your motion graphics, video effects, digital cinema and Web streaming media projects. Real-time brushes, interactive Rub-Text, instant feedback, and advanced integration provide you with the control you need. It's the only desktop application to offer instant playback of moving video, DTV, HDTV and film images directly from RAM or disk. It also boasts powerful rotoscoping tools, a fast image tracking system, third-generation paint system to ensure quality retouching, and a host of easy-to-use filters.

Only 30 frames may be loaded at any given time with this demo and a number of features are disabled, including the saving of images, composites, mattes, splines or temp files, cut/copy/paste, insert frames and export effect data to clipboard.



Spark XL 1.6

Master and edit audio files with this two-track editor.

SparkXL comes with 12 high-quality VST plug-ins including DeNoiser and DeClicker for audio restoration. With TDM support, use VST and TDM effects via DirectConnect at the same time. Create your own playlists and burn them to CD. Use the crossfade editor to create precise fades. Cut, paste, pitch-shift and time stretch – even in real-time.

This trial version is fully functional for one week from first installation. Only the MPEG encoding and decoding is not included here.

Cover CD OCTOBER 2000

INSTALL

Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ Acrobat Reader+Search 4

Install this version to be able to read many of the on-screen manuals.

■ Stuffit Expander & DropStuff

Versions 5.5, 5.1.2 and 4.5 are included.

■ System tools & ATM Lite

The CD also carries the latest version of InternetConfig, UnZip 5.32 and ATM Lite 4.6 (required for Suitcase 9).

■ QuickTime 4

Some programs require QuickTime 4. This can be downloaded from www.apple.com/quicktime/download.

INSIDE MACWORLD



furbo | webmaster

Filters that help you master that art of making small Web graphics.

GammaToggle

Toggle back and forth between the standard PC & Mac gamma settings.

iCab Preview 2.1

Preview of the iCab Web Browser that expires the end of January 2001.

icWord

WYSIWYG opening of Word files without the Microsoft application.

PrintToPDF

Create PDF files from within your application programs.

VSE My Privacy 1.2

Secure repository for passwords, notes and data that needs to be kept safe.

Web Archive Converter

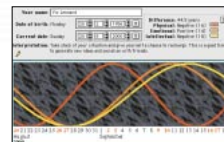
Converts Internet Explorer Web archives into a ZIP equivalent.

WebFeedback

Never suffer again from broken or dead links in your Web site.

Plus...

EPStoPICT, MPegger trial, SoundJam MP Free 2.1.1, Vicomsoft SurfDoubler trial.



Biorhythms 8

Follow the three natural cycles that rule your mind, body and emotional wellbeing.

CD CATALOGUE



Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2000 – almost 188,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.0.2) is also included – don't forget to register if you find our library useful.

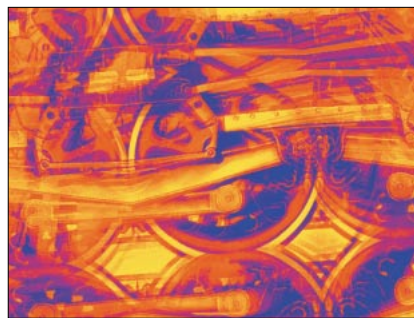


SERIOUS SOFTWARE



The VR Worx 2.0

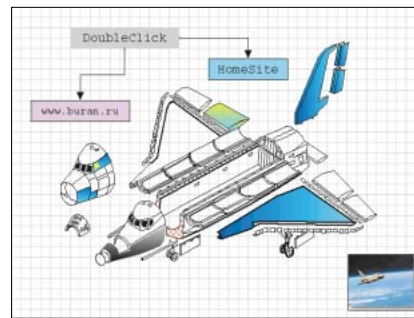
The VR Worx 2.0 comprises of three QTVR Modules in a single interface. The Panoramic module now provides faster and more intuitive stitching, with a Hot Spots Panel and resizable windows. The Object module now contains an independent Special-Effects Panel, including new de-wobble and cropping special-effects. The Scene module now allows zooming while editing in the Node Browser. It also allows QuickTime video and still-images to be used as nodes, in addition to panoramic and object movies. Also, panoramic and object projects can now be composed within the Scene module. The demo is fully functional but save-disabled.



Videodelic Player

Videodelic is a real-time instrument for creating 'visual music'. The Videodelic Player lets you perform pieces and gives you a taste of what Videodelic can do.

After you launch the player, an instruction screen will appear. Press the mouse button to proceed and you are ready to play Videodelic. Playing a Videodelic file involves changing patches (also called presets), effects and display modes in real-time. Most patches respond to mouse movement, so when you change patches, move the mouse to interact with the new patch. Includes additional samples – check the Read Me files for more info.



ConceptDraw 1.5

ConceptDraw offers you a wide choice of different tools for quickly creating business diagrams, research layouts, charts, plans and so on. For each object, you can assign different line and fill colours, fill and shadow patterns. Any object may contain text. The Snap and Glue tools help you align points, lines and objects as you draw them and position them precisely. Formulae allow you to define various object parameters, which gives virtually unlimited control over objects.

In the Demo version, the following are disabled: saving documents, libraries and templates; printing; print preview; exporting to other formats; and copying to Clipboard.

Cover CD OCTOBER 2000

GAMES WORLD



Contraptions

In Return of the Incredible Machine: Contraptions, you're the inventor as you attempt to solve over 250 wildly imaginative puzzles, most with multiple solutions. Create incredible machines out of a diverse assortment of crazy and colourful parts, ranging from ropes, pulleys and bowling balls, to cheese-driven mouse motors. And after solving the puzzles, make your own, with the built-in puzzle editor! (not included in the demo).

The demo sports ten Contraptions from 'super-simple' to 'hair-tearing' and includes three two-player contraptions for head-to-head madness, along with 20 parts to build your own madcap contraptions!

Requires a PowerMac with 32MB RAM.



Burning Monkey Puzzle Lab 1.0

Ahhh... monkeys in lab coats – but wait a second!? Monty and the rest of the Burning Monkey gang are exercising their colour co-ordination skills at the puzzle lab. A fun and exciting work environment where chain reactions keep the experiments going.

Pursue new scientific heights alone, or challenge a colleague in a battle of skill and wits. And you can always retreat to Zen mode as you find your inner monkey under the mystic tutelage of Monchi Tzuma.

Burning Monkey Puzzle Lab features the HMS Freeverse Game Server, different modes of play (solo, versus, zen and mission), and customizable play. Try it for 20 days.

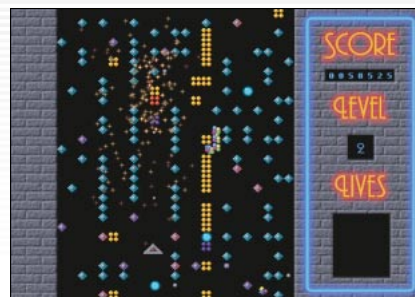
FAULTY COVER CD-ROM?



•If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or at kelly_crowley@macworld.co.uk.
•If your cover CD doesn't seem to work as it should please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at woody@macworld.co.uk.



DEMOS & GAMES



Firefall

The Top Ten Shareware Games folder includes the very latest versions of some of our favourite 'M' games – the twisty-turny **MacSnake 1.3.1** (now freeware), **Mega Minesweeper 1.1** with its modern looks and updated gameplay, and **Mike's Cards 1.6.1**, with over 130 card games – from Cribbage and Euchre to almost any solitaire you've ever heard of – and then some!

This month also hosts five great puzzlers in the Tetris-like **BlockForge 1.1.0**, **Firefall** (based on the Centipede-lookalike from 1993), **Peg Solitaire** and **Plunk! 1.0** plus **Eternity 1.1**, a superb board game that'll keep you going for hours.

Finally, there's **Cloudz 1.4.5**, an excellent arcade with its interesting (ab)use of biased gravity! Enjoy...

ALSO ON THE CD



COMMS & INTERNET

13 applications, including:
CreativePage 2.0
HTML Optimizer Pro 1.7.2
Style Master 1.8

EDUCATION

Three programs, including:
English-Spanish Dict 3.0
MacTypingTutor 4.7.7

FONTS

Four items, including:
Font Smoothie 1.1
The Fontz 1.2.1

GRAPHICS



Eight items, including:
Filter Organizer 1.0.7
Fractal Explorer 1.5.5
RainbowPainter 1.9.2
XMedia 1.1.1

ICON UTILITIES

Kaleidoscope 2.2.4

INFO



1984 Online issue 27
ATPM 6.08
MyMac 64
plus nine utilities
for developers

MATHS & SCIENCE



Five programs, including:
Periodic Table 2.5.1

SCREENSAVERS

Screener 2.2
Setting Sun 1.4

SOUND & MUSIC



11 applications, including:
Amadeus II v2.4
BayTex Party! Pro 2.5.1
SoundApp 2.7.2
studio system 3.1

UTILITIES



12 categories comprising
over 50 useful tools for
your Mac, including:
CoolCam 1.5.1
Default Folder 3.0.6
DeskPix 2.0.2
Drag'nBack 3.3.4

FaxConverter 2.1

FileTyper 5.5.1
GURU 2.9
MacArmyKnife 2.0
MI Convert 2.6.1
MusiCatalog 3.7
PrinterSwitch 1.5
SCSIProbe 5.2
Stay Put 2.2.1
Znippetizer 1.1.7

UPDATERS

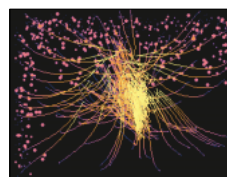
This month's dedicated
updaters folder includes
over 40MB of patches
to bring many popular
applications bang
up-to-date, including:
CINEMA 4D XL R6.1
FLIGHTCHECK v3.88
iMate v2.3
InDesign 1.5 Hyph'ation fix
MarkzTools v8.02
Norton AntiVirus 5/6 (08/00)
PowerDomain Control 6.1.1
SoundJam MP 2.1.1
TechTool Pro 2.5.5
Virex (08/00)
WordPerfect 3.5e Mac OS 9

DON'T MISS...



Cool Extras

Billionth Birthday – the
when and where of dates.
PixelToy 2.2 – lava lamp
display Mac-style.
Web Color Chips – useful
on-screen display of the
216 Web-safe colours



Mac ISPs

Internet access offers from AppleOnline, easyspace & FreeUK.

Netscape

Complete package for Communicator 4.75.

Plus...

... many thanks to Simon Youngjohns for our CD icons.

SHAREWARE



Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.

Seybold: OS X beta makes Paris debut

Publishing is changing, and so is the Mac OS. Apple CEO Steve Jobs took centre stage at Seybold, San Francisco, to reveal that Mac OS X will be available in public beta form at Apple Expo in Paris (which opened on September 13).

Jobs said: "We'll release the public beta of Mac OS X there. You'll be able to get your hands on it."

Seybold show-goers – many firmly in the Wintel camp – warmed to showman Jobs during his 90-minute keynote.

"Two brains are better than one," chanted Jobs, as he ran a demonstration which showed the G4 multiprocessing (MP) Power Macs' speed advantage over 1GHz Pentium III systems. Jobs told the audience to expect further dual-processor announcements from Apple.

"Dual processors are really a big deal. They're getting us ahead of anyone in the PC business."

Jobs introduced Adobe president, Bruce Chizen, who demonstrated Photoshop 6 running on an MP G4 Power Mac. Chizen said: "Our



Logic ally
Discreet Logic demonstrates its Combustion 3D special-effects software, now optimized for Velocity Engine and dual-processor Power Macs.

relationship with Apple is better than it's ever been." He pointed to Apple's adoption of Adobe's PDF as the core technology of Quartz, the imaging engine in Mac OS X.

Change is good, Jobs stressed: "We're cleaning-up the system in terms of simplicity." After listening to its customers, Apple's Mac OS X includes a new Finder, which Jobs said would do everything the current Finder can do – and more. File saving has been given extra oomph, as Macintosh users can save files in favourite or recent

Crowded house

Crowds queued for over an hour to see Apple CEO Steve Jobs deliver his keynote speech.



Vision of future looks good ...on paper

Adobe CEO John Warnock and Xerox PARC chief-scientist John Seely Brown joined John Gage, chief researcher at Sun Microsystems and Paul Saffo, director of Institute of the Future, to reveal visions of the future of publishing at Seybold, in San Francisco.

Gage showcased digital paper technology, currently under development at Xerox PARC. It creates images and text through an internal layer of microscopic balls – black on one side and white on the other – which flip-over when an electrical current passes over the surface. Digital paper will hold illustrations, words and links to reference information.

Xerox PARC was key to the development of Macintosh computers. In the 1970s, Steve Jobs visited and was blown-away by the first graphical user interface (GUI) he saw under development there.

Brown displayed more of Xerox



Paper chase

Xerox PARC's digital paper was showcased at Seybold

PARC's work in-progress, including a single-screen device able to hold as much data as a 50-page book.

He explained that the message will remain important, but that the medium will also "need to please".

On copyright in the digital age, Saffo said: "The next 20 years will be an age of policy by piracy. But the pirates who break rules and deliver

new content are driving innovation forward," Saffo said.

Discussion moderator Jessie Berst joked that perhaps people will grow tired of pirating copies of Photoshop. "That's not piracy," Saffo responded, contesting that this was "market development". He said: "People pirate software and get hooked on it. Then they reach a point where they want to buy the newest version."

Warnock called computers "intelligence amplifiers". He said: "We aim to reach a point where there aren't any user interfaces." Warnock presented a vision of the future rich in seamless forms of technology, so that users no longer realise the technology is there.

Gage concluded, by saying: "In the future, publishing will offer a world rich in information and interactive experience. Augmenting human intelligence is the point."

By Macworld staff

places, as well as anywhere on the entire system, said Jobs. He also revealed that the public beta includes OpenGL, Java 2 and multiprocessing support.

Jobs went on to describe Mac OS X's construction. He mentioned its layers, with an open-source kernel – Darwin – at its core. Upon this rests three, further layers: Quartz for 2D graphics; Open GL for 3D; and QuickTime for, multimedia.

Above these sit three application programming interfaces (APIs): Classic lets users run existing applications; Carbon offers the full advantages of Mac OS X; and Cocoa, the environment in which new applications are developed to take advantage of Mac OS X.

Mac OS X concession to graphics users

Jobs revealed that the Aqua interface has been given an alternative Graphite flavour for high-end users.

Jobs said: "We got some feedback that told us that, while Aqua was beautiful, graphic artists thought there was too much colour and that it would intrude on their content. So we've added a simple mode in the system control panel – a Pro mode – where you can flip on Graphite and, boom, all the colour goes away. Every application immediately switches to Graphite."

Another feature – for waking PowerBooks – was also showcased. Mac OS X will wake the machine from sleep in one second – the current Mac OS takes up to 22 seconds. A third feature given a Seybold airing was the QuickTime player, although its version number remains a secret (see News, page 30). Mac OS X will ship with a desktop MP3 Player, which will play MP3s even over a network, as well as playing conventional CD-audio files.

Font-management also gets a boost, with a built-in multi-column font panel that will organize fonts into collections. When a user clicks on a font collection its font families will be listed. Click on a typeface and the individual characters will also appear.

Internet Explorer 5.5 has been optimized – carbonized – for Mac OS X. Microsoft's Irving Kwong would not confirm if IE 5.5 would ship with the beta, although Jobs told Seybold: "We have a great version of IE 5.5 that is shipping fully carbonized with Mac OS X. A very fast browser, very nice. That's one of dozens of apps that will ship with Mac OS X in the public beta." Jobs also declared



that the browser would include Macromedia's Shockwave and Flash built-in.

Jobs requested feedback from users, particularly regarding Apple's crucial beta Mac OS X release: "We hope we make products that are to your liking. If they are, please let us know, because we are 100 per cent for making the coolest computers in the world for you guys."

Closing the event, Tony Campitelli of Macromedia demonstrated carbonized versions of Dreamweaver and Fireworks running under Mac OS X.

The public beta of Mac OS X is now available from Apple. Visit Daily News on Macworld Online (www.macworld.co.uk/news) for more information as it emerges from Apple Expo, Paris.

MW

Adobe clinches ebook deal



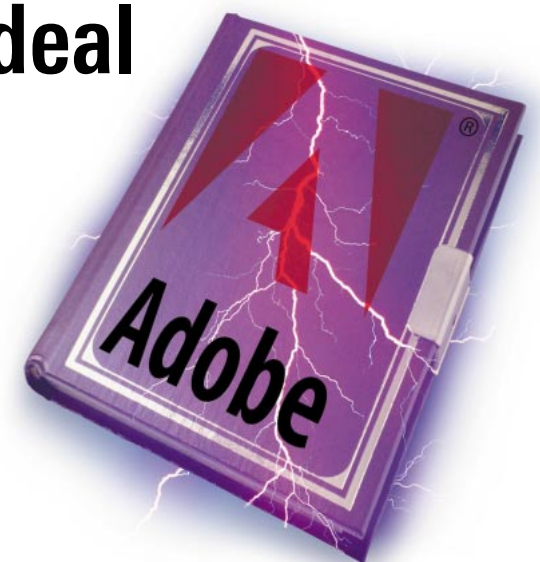
Mac attack

Adobe's Seybold pavilion was packed throughout the show.

In a bid to broaden its scope within the publishing market, Adobe announced plans at Seybold to acquire Glassbook – which specializes in creating ebook solutions. Its products include Glassbook Reader, Glassbook Plus Reader and Glassbook Content Server.

Adobe and Glassbook will work together to create open, standards-based ebook solutions based on Adobe's PDF format. Glassbook's technologies will be integrated into future versions of Adobe Acrobat Reader.

Adobe will also develop Glassbook's Content Server, to offer publishers a secure means of distributing publications electronically in PDF form. Glassbook Reader will be integrated into Adobe's Acrobat reader solution.





Photoshop 6.0 a vector powerhouse

Photoshop's forthcoming 6.0 upgrade is "one of the most significant in years", according to Adobe. In addition to yet another batch of user-interface tweaks, Photoshop 6.0 will offer integrated vector-drawing tools and new layer-design features. Version 6.0 builds on 5.5's Web-savvy features, and includes ImageReady 3.0 for advanced Web-production tasks. Adobe also says it's made Photoshop "faster and easier" for image-editing novices.

Always thought of as the premier bitmap-editor, Photoshop will now include vector-shape support, allowing users to add editable lines, rectangles, ellipses, and polygons to images. Add, Subtract, Intersect, and Exclude commands combine to make basic shapes. Vector shapes can be edited freely, and custom shapes can be saved for on-going use and sharing.

These vector capabilities are the result of sophisticated layer-clipping paths, but the effects are largely the same.

Text message

The much-longed for vector-text support means users will be able to incorporate vector text into images. Text can be styled using extensive new character and paragraph controls. Twisted and warped text remains fully editable. The text effects and built-in styles are eerily close to those of Strider Software's TypeStyler III program. The new Liquify command is reminiscent of Kai's PowerGoo, allowing users to distort or warp an image by interactively pushing and pulling image pixels.

Image layers can be masked with vector-based layer clipping paths, which are intuitive to edit. Images can be output with resolution-independent text and vector shapes as PDF files or directly to PostScript.

Adobe has increased the layer limit to take account of



Text-book feature

Vector-text support in Photoshop 6.0 is a long-awaited feature and means warped and twisted text now remains fully editable.

the power of your Mac. While the company has squeezed 8,000 layers on a test machine, Adobe says the typical computer "should be able to handle several hundred".

Photoshop 6.0 can apply editable gradients, patterns, and solid colours, as well as colour adjustments, to other layers. It can specify a variety of layer settings in one dialogue box, including layer-effect options – drop shadows, glows, bevels and strokes – blending modes, transparency, and other settings. These settings can then be saved as layer styles.

Enhanced PDF-support allows Photoshop 6.0 users to produce compact PDF files that support duotones, spot-colour channels, and transparencies. Resolution-independent text and graphics, as well as Photoshop layers, can be exported as PDF files.

Web-graphics improvements

There's also tighter integration with Adobe ImageReady 3.0. Files can be moved back and forth between Photoshop and ImageReady more quickly using Jump-to buttons. Automated file-saving further streamlines the process. The new vector drawing tools and layer styles allow for faster creation of Web graphics, such as buttons, and navigation bars, according to Adobe.

Slice tools enable the creation of complex layered images directly in Photoshop. Appropriate format and compression settings can be applied to each slice before exporting them as an HTML table.

Adobe's product manager for imaging products, Karen Gauthier says users of earlier versions will find it "very difficult" to go back – as Photoshop 6.0 is so much cleaner and more powerful. "Version 6.0 includes some cool changes to the interface," she told *Macworld*.

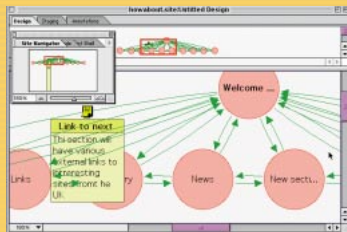
Gauthier said print previews are "much-improved" and that the new top-of-the-screen context-sensitive Options bar makes it easier to access dockable palettes.

Adobe Photoshop 6.0 costs £450 (ex VAT), and is expected to ship later this year. Customers can upgrade from version 5.5 for £90. The bundled GoLive 5.0 trial can be upgraded to the full version for just £65.

For more details on this new version, see page 74. MW

GoLive 5.0 goes live

Adobe has released GoLive 5.0, the newest version of its Web-authoring application. Version 5.0 boasts a unified Adobe interface for the first time – standard across all its products – and so integrates better with other Adobe apps. Photoshop's image-processing engine is built-in, but without the full features of Photoshop. However, the Save to Web command, which automatically creates Web-ready images from original files, will prove popular with Web designers. Adobe has made GoLive 5.0 a flexible solution and has "360-degree code", allowing it to read and understand almost any Web source-code. It costs £199 and is available online, at www.eurostore.adobe.com, or from authorized resellers. Registered users of GoLive can upgrade for £65. GoLive 5.0 is also included in the Adobe Web Collection, that includes Illustrator 9.0, LiveMotion 1.0 and Photoshop 5.5, and costs £669. For a full review of GoLive 5.0, go to page 50.

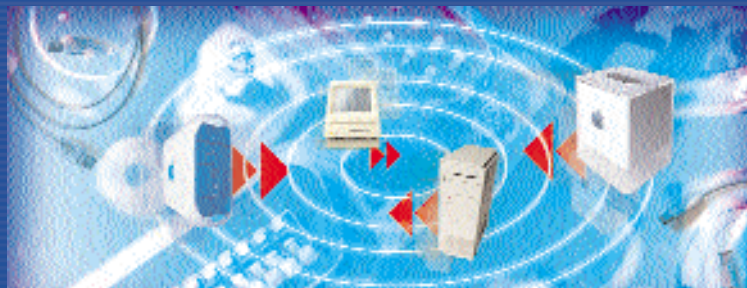


Adobe GoLive 5.0's Design Tool allows users to layout complete draft Web-sites to show clients before creating real pages.



FireWire tackles blazing SCSI

From serial to parallel... and back again



Early Macs used costly serial connections to talk to external hard drives. But in January, 1986, Apple introduced the Mac Plus, the first Mac with an external SCSI connector. The Mac SE was first model with an internal SCSI hard disk. Apple's adoption of SCSI was central to the growth of the new parallel technology, says Richard Zulch, chief technology officer at Dantz Development, maker of the Retrospect backup utility. "I was kind of in the middle of things then, and it has always been my perception that Apple's adoption of SCSI made it a viable interface," he said.

SCSI-2, developed to improve speed and compatibility among different SCSI devices, became a standard in 1991. With a bus width of eight bits and bus speed of 5MHz, total throughput worked out to about 5MB per second.

SCSI-2 was succeeded by various flavours of the specification. Fast SCSI moved the bus speed up to 10MHz, and Wide SCSI expanded the bus width to 16 bits (in SCSI lingo, "Wide" means a 16-bit bus). Fast Wide SCSI has a 16-bit wide bus, a bus speed of 10MHz and a peak transfer rate of 20MB a second.

Ultra SCSI, which replaced Fast SCSI, offers a 20MHz, 8-bit bus, enabling a peak transfer rate of 20MB per second. Ultra2 SCSI raises the bus speed to 40MHz. Ultra2 Wide SCSI, with a 40MHz, 16-bit bus, is capable of 80MB-per-second throughput. Ultra160/m SCSI, also called Fast-80 SCSI or Ultra3 SCSI, maintains the 40MHz bus speed, but again doubles the throughput to 80MB per second. The Ultra3 Wide SCSI protocol extends the peak transfer rate to 160MB per second. On the horizon is Ultra 320 SCSI, which promises a peak transfer rate of 320MB a second.

SCSI has come a long way, and development continues today, even though it maintains support for all seven generations: You can connect a slower SCSI device to a newer implementation and it will work, although some devices on the chain may slow to the lowest common speed.

SCSI has recently lost ground to the inexpensive ATA interface. Dantz's Zulch says that ATA tends to be designed with an eye on the bottom line, although performance considerations are also important. SCSI's primary goal is performance, with cost being secondary. SCSI is still viewed as the preferred high-performance storage interface, and is the interface of choice for servers, RAIDs, high-performance tape drives and other high-end storage systems.

Back to serial

Looking ahead, storage interfaces appear to be coming full circle as manufacturers adopt high-speed USB and FireWire serial interfaces for storage. Zulch suggested that the days of the parallel storage interface are numbered, given the availability of fast, inexpensive controller chips that were not available 15 years ago. Additionally, desirable features such as Plug-&-Play, small connectors and hot-plugability would be extremely difficult to implement on a wide parallel connection. Internally, FireWire and USB are complex, but Zulch said the result is external simplicity.

Eventually, it will be less expensive and more functional to use a high-speed serial interface instead of a parallel interface. Apple's current success with FireWire and USB suggest that it may again be at the forefront of a revolution.

We might have dumped all those SCSI-chain problems when Apple moved us over to USB connectivity, but power users still rely on the ageing interface for super-fast hard-disk performance. Cheaper, improved ATA hard drives ship as standard in all new Macs, and FireWire drives are becoming more popular, but SCSI is still king. *Macworld* takes a look at the current state of connectivity interfaces, and looks back at an ever-changing history.

ATA vs SCSI

The Mac's standard, built-in Ultra ATA/66 hard drives (also known as IDE drives) run at either 5,400 revolutions per minute (rpm) (20GB Ultra ATA Drive) or 7,200rpm (30GB and 40GB Ultra ATA Drives). Data transfer to and from the hard drive is at up to 66MB of data per second.

The highest specified Mac you can buy now costs £12,111 (ex VAT) — a lot of money, but an awful lot of numbers. Your dual 500MHz PowerPC G4 Power Mac comes with 1.5GB of RAM, Zip drive, DVD-RAM, and three 72GB Ultra160 SCSI hard drives. Oh, and I threw in a 22-inch Cinema Display, as well!

These Ultra160 SCSI hard drives run at up to 10,000rpm and read and write data at much higher speeds than ATA drives. A dual-channel Ultra160 SCSI card is installed in one of the computer's PCI slots. Ultra160 SCSI supports up to 160MB of data per second. With the dual-channel card, you can also connect external SCSI devices on the second SCSI bus without affecting the performance of your internally connected Ultra160 SCSI drives.

Another SCSI advantage is that you can configure multiple SCSI drives in arrays. SCSI arrays with RAID (redundant array of independent disks) software enable disk striping, which improves performance by spreading data over multiple disk drives; and disk mirroring, which protects data integrity by simultaneously writing it to duplicate disks. SoftRAID is included with all G4 Power Macs with two or more Ultra160 SCSI hard drives.

Today's ATA drives are a lot faster than ATAs of old, but SCSI is what the real power users — those who demand the fastest components in every part of their Mac — should go for. Other elements that make a real difference to your Mac's speed are memory and faster video-accelerator cards.

FireWire

FireWire hard drives are becoming popular because they are easily portable and provide excellent performance when compared with USB drives. But regardless of who makes them, currently available drives do not offer native FireWire connections. Instead, they are ATA drives that use a bridge chip to convert the ATA connection to FireWire. The bridge is not a performance bottleneck, but native FireWire hard drives, once they are available, could give Apple an opportunity to further streamline its manufacturing processes by eliminating the need for an ATA controller on the motherboard.

Manufacturers have been reluctant to offer native FireWire drives due to the relatively small number of FireWire-equipped computers — six million, half of them Macs. If all those Macintosh users were to buy a native



FireWire drive from one manufacturer, such as Seagate, it would represent only three per cent of the company's market.

Vincent Fedele, chief technology Officer of VST/SmartDisk Personal Storage Systems, said that FireWire's current position is similar to SCSI's a few years

ago. The first SCSI drives were bridged IDE drives but then, as the market expanded, manufacturers introduced native mechanisms. And the market for FireWire is sure to grow: 26 million PCs will have FireWire by the end of this year and 52 million by the end of 2001, according to a recent report by In-Stat, a market research firm.

As the number of FireWire users increases, economies of scale will make it cheaper to build native FireWire drives — internal and external — than bridged ATA units.

Almost all currently available FireWire drives are external units, but Apple hinted at a future for internal FireWire devices by including a seldom-used internal FireWire port in the previous-generation Power Mac G4. However, the current generation includes only the two external ports.

The Power Mac's ATA controller supports up to four internal devices; for more, you need to add a PCI card. But the Power Mac G4's FireWire implementation can service more than 100 devices. Imagine a Mac where the internal DVD, hard drives, Zip drive, and other devices are all connected via FireWire. You could add new devices without additional hardware, and users could quickly set up a software RAID with such a configuration.

Fedele believes that FireWire and USB have already played a big role in cutting Apple's hardware costs by allowing the removal of costly components for SCSI, ADB, serial, and floppy drive connections. Native internal FireWire devices would allow Apple to further consolidate its architecture — and cut manufacturing costs — by eliminating the ATA controller.

Macworld staff

FireWire audio: the promised mLAN

Yamaha is tentatively scheduled to announce its rollout strategy for the first generation of FireWire-based digital audio recording and production equipment in its mLAN series at the Audio Engineering Society convention, from September 22-25 in Los Angeles.

mLAN is a communication standard that uses an audio and music data transmission protocol in conjunction with FireWire, allowing audio and MIDI to be simultaneously transmitted and received over a single cable. Yamaha refers to the IEEE-1394 interface by its generic name, rather than "FireWire," which is Apple's brand name.

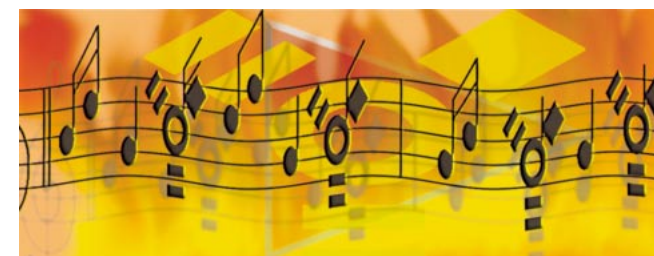
Three to go

The first group of products will consist of three units: the mLAN-8P interface/breakout box and two interface modules, the mLAN-8E and CD8-mLAN. They will operate at 200Mbps, and are capable of

16- or 24-bit depths and sampling rates of 44.1 or 48 KHz, per user specification. Sawada declined to speculate about supporting FireWire's maximum throughput of 400Mbps. Theoretically, up to 100 channels of audio data or 256 ports of MIDI data can be transmitted and received at 200Mbps, and up to 63 devices can be daisy-chained and hot-swapped.

The mLAN-8P interconnects conventional audio/MIDI and mLAN, and has an internal mixing capability with digital effect processing. It is capable of eight simultaneous audio ins/outs, and can mix 12 channels.

Connectors include: three FireWire ports; stereo quarter-inch analogue in and outs; and stereo S/PDIF in and out, for coaxial and Toslink optical connections (S/PDIF is a digital audio transmission standard). It also includes a stereo headphone jack; a one-in, two-out MIDI interface; two auxiliary sends (one stereo) for external sound



effects, and two master outputs (one stereo).

The mLAN-8E interface module supports Yamaha keyboards and tone generators, including the Yamaha S-80, CS6X, CS6R, A4000 and A5000. The unit also has internal mixing capability for 16 inputs, but doesn't support digital effect processing. Connectors include three FireWire ports that support eight channels of audio in and out, and MIDI in/out.

All the products will ship with mLAN Mac drivers for compatibility with the ASIO and OMS standards.

Mac compatibility

Yoshi Sawada, Yamaha's manager of 1394 R&D, said that Yamaha will announce a list of compatible Mac models at a later date, and that Yamaha is working with Apple to

address some issues on PowerBook FireWire. Yamaha is performing research and development on ten units in a studio in Tokyo. Production is slated to begin in October.

The company demonstrated mLAN at the January Macworld Expo in San Francisco, winning a "Best of Show" award. Yamaha did not have a booth at Macworld Expo New York, but did attend the concurrent National Association of Musical Manufacturers (NAMM) show in Nashville, where it focused on signing licensees for the technology. Synthesizer manufacturer Korg was the first third party to offer an mLAN-enabled product at NAMM, with an mLAN Interface Board option for its newly-announced Triton Rack workstation/sampler.

David Leishman



Adobe sues arch-rival Macromedia

In what could turn out to be a long-running but key test-case for the whole software industry, Adobe is suing its Web/graphics-rival Macromedia for infringement of intellectual property, specifically its patented tabbed-palette interface elements. Adobe claims that it invented this "key user-interface element and method" and incorporated it into its products before Macromedia.

Several of Adobe's main products clash with Macromedia's. Adobe's vector-drawing application Illustrator competes with Macromedia FreeHand; its WYSIWYG Web-editor GoLive with Dreamweaver; its LiveMotion animated Web-graphics program with Flash; and ImageReady with FireWorks Web-graphics app.

Macromedia has to file a response within 20 days, or ask for an extension. At press time, the company hadn't filed its response and refused to comment.

Macromedia "categorically denies the claims made in the lawsuit Adobe filed over patent infringement."

"We believe the claims made are without merit and that the patent was invalid because it was obtained by not disclosing relevant prior art," which is previous work of the same type, according to Macromedia.

Macromedia says it told Adobe that the patent was invalid back in 1996, when Adobe first contacted Macromedia with complaints of infringement. The company says it repeated its position when Adobe most recently contacted Macromedia about the patent in May of 1999. The patent in question is US Patent No. 5,546,528 – granted to Adobe in August of 1996. No hearing has been set yet.

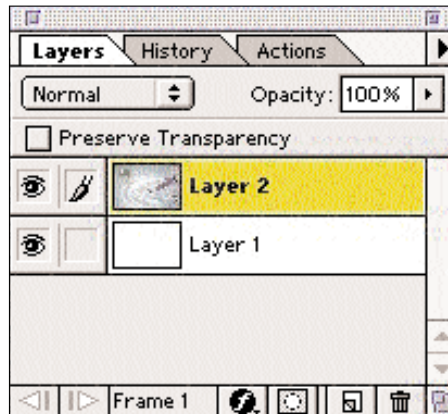
Competitive advantage

The patent covers the tabbed palette patent, which is Adobe's method of displaying and working with multiple sets of information in the same area of the computer screen.

Adobe claims that "these elements are heavily associated with the Adobe brand; they are a major competitive advantage and a significant reason why customers purchase our products".

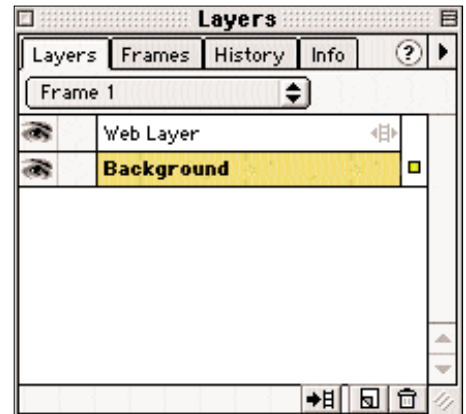
"We are taking this action now, after notifying Macromedia on several occasions, that its products are infringing our patent. The remedy sought is straightforward – we ask them to stop infringing," said Bruce Chizen, Adobe's president.

"Adobe will not be the R&D department for its competitors. Our patent and other aspects of our user interface are key to the user experience and functionality of our



Fast demo

Adobe's patented tabbed-palette invention allows users to customize how the functions in the product are organized on the workspace. Here we see tabbed palettes in Adobe's ImageReady (left) and Macromedia's Fireworks applications.



products; they are essential to differentiate our products and brand from others," he added.

"Adobe will aggressively enforce its patent portfolio and protect the interests of its stockholders," said Colleen Pouliot, Adobe's senior vice president and general counsel.

"To be fair, competition has to be based on a level playing field – companies must compete on the basis of innovation and according to the laws of the land. All we ask is that Macromedia play by these rules and stop infringing our patent."

A FAQ on Adobe's Web site (www.adobefacts.com) claims that it is taking this action as "a last resort".

"We warned Macromedia repeatedly, but it ignored those warnings. We do not commonly litigate, but this instance with Macromedia is flagrant, and involves a pattern of violations, as well as public statements that indicate its intent to continue to infringe our patent.

"Macromedia infringes our patent across its product line. It is copying the Adobe user interface and calling it their own," the statement reads.

"We had hoped to keep this matter out of the courts but recent events have given us no choice."

The statement says that Macromedia has put its customers "at risk of having to reinvest in learning their products".

"Like Velcro and Post-It notes, the very best inventions become so familiar that they are taken for granted.

"The fact that tabbed palettes seem so natural and common now is a testimony to the Adobe development effort that went into the invention," the company claims. **MW Macworld staff**

When rivalry goes bad

The rivalry between the top developers of Mac graphics-software has erupted into the corporate equivalent of a shooting match. Macromedia's attorneys have not yet made a formal response – but the stakes are high and all signs point to a lengthy legal confrontation.

Tabbed palettes – or "panels", as Macromedia refers to them – are central to the user interfaces of both companies' programs. Graphics packages such as Adobe Photoshop and Macromedia FreeHand are complex beasts that continue to add features with each new release. Tabbed palettes provide a useful means of accessing and organizing these functions, because you can arrange them as you please, docking them together to save screen space. This latter capability is especially important – both programs' interfaces would be horribly cluttered without it.

Patent cases require extensive use of expert witnesses and high-priced legal specialists. Adobe wants Macromedia to remove tabbed palettes from its software and is also seeking monetary damages. Given the impact this would have on its product line, it's hard to imagine Macromedia giving up without a fight. It says that tabbed palettes existed before Adobe got the patent, and that the US Patent and Trademark Office should have denied the patent application because of this.

The courts will decide whether Adobe, as it claims, is unfairly victimized by Macromedia's use of tabbed palettes, or whether Macromedia is correct in its assertion that it has every right to use the feature. Either way, Adobe is risking a public relations disaster. Macromedia's graphics products are popular – even among many users of Adobe software – and fans of FreeHand, Flash, FireWorks and Dreamweaver won't take kindly to a lawsuit that aims to disable those programs' interfaces.

Adobe seems to recognize the risk, hence its Web site is devoted to its case. And so we have witnessed the opening shots in what is likely to be a long and costly legal war. **MW Stephen Beale**



Web ready for SVG vs Flash battle

The Scalable Vector Graphics (SVG) format reached a major milestone earlier last month, when the Worldwide Web Consortium (W3C) released the SVG specification as a "candidate recommendation". The W3C, which governs HTML, XML and other Web standards, is now inviting developers to implement the format and report any unforeseen issues back to the organization, said Chris Lilley, who chairs the W3C's SVG working group.

Lilley says that the candidate recommendation is equivalent to releasing beta software. "We're saying that it's pretty much done, now please go implement it," he said. "It's the last step before it's real."

SVG, which is based on the Extensible Markup Language (XML), allows creation of static or animated vector-graphics using XML code. Adobe has been the primary champion of the format, and includes extensive information about it on its Web site. Flash developer Macromedia has endorsed SVG, but with much less enthusiasm than Adobe.

Flash comparisons

Although Flash and SVG produce similar content, the formats themselves have little in common. Flash is a binary format, whereas SVG files consist of plain text. As a result, Flash files tend to be more compact. In one test with an Adobe Illustrator file, we found that the SVG version consumed 236K, whereas the Flash file took just 56K.

On the other hand, SVG's foundation in XML gives it certain advantages. Applications can read, write and exchange SVG files with relative ease, and objects created in SVG can include XML metadata that describes their content. Text incorporated into the graphics can be searched like any other XML content, and SVG files can use XML code to incorporate rollover effects without the need for JavaScript programming.

"Companies have a lot of their data in XML," Lilley said. "There's a big, growing XML infrastructure for business-to-business, and it all works the same way."

As with Flash, SVG files can incorporate bitmapped images in addition to vectors. When scaling bitmaps

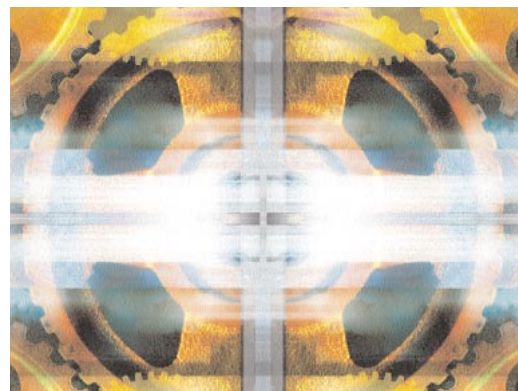


IMAGE COURTESY OF DIGITAL VISION

the spec uses a bicubic interpolation function similar to the one in Adobe Photoshop, Lilley said.

SVG also allows for sophisticated image-swapping capabilities. For example, a browser can present different versions of an image based on the user's language. This extends beyond the language used in the graphic. For example, Lilley noted that a Web page might use a pointing finger when viewed in European countries, but an arrow when viewed in Arab nations – where a pointing finger might be seen as offensive.

Broad support

Lilley expects that SVG-rendering capabilities will be built into leading browsers, meaning you won't need a plug-in to view the content. Until then, Adobe Systems offers an SVG viewer plug-in for free download.

Flash, of course, is already broadly supported in browsers and is a popular format for creating media-rich Web sites. Macromedia, citing a survey by NPD Online Research, estimates that 91.8 per cent of US Internet users can view Flash 2 content and 74.1 per cent can view Flash 4, which has just reached version 5; numbers from other countries are similar. (For more information on Flash, see Reviews, page 54).

Lilley noted that the SVG specification is controlled by the working group rather than a single developer. Although Macromedia has published the Flash specification and allows any developer to read or write the format, "they can always change it", he said.

At present, only a handful of applications, including Adobe Illustrator 9, can export SVG. However, with the release of the candidate recommendation, the number is likely to grow.

Lilley said the current testing stage will last one to two months, after which the working group will produce an implementation report summarizing test results. At that point, he said, the spec will be frozen and submitted to a vote by all 450 W3C members. The ultimate question for the members, he said, is whether the spec "is in a state where if people adopted it, it would make the Web a better place".

Lilley emphasized that the W3C creates recommendations, not accredited standards. However, standards-setting bodies such as ISO have ratified HTML and other W3C recommendations as official standards.

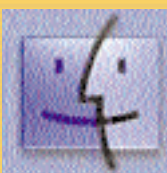
Stephen Beale

Trash Apple's stupid old round mouse



Did anyone actually like Apple's daft yo-yo mouse? New iMac users didn't know any better, but old Mac pros were insulted by the tiny roundy that shipped with their shiny new G3 & G4 Power Macs. You couldn't really see which way it was pointing. It was small, and it was very embarrassing.

Flash Apple's smart new optical mouse



On sale now, Apple's superb optical mouse is comfortable to hold, doesn't glue up with dirt, looks super-cool and works so smoothly you'll forget that it's in your hand.

The whole case is the button, which means clicking comes totally naturally. OK, £39 (excluding VAT) ain't cheap, but it's worth it for showing-off alone.





At last... online banking comes to the Mac



Widespread Internet banking is finally a reality for Macintosh users, with existing services being upgraded to accommodate the Mac platform.

Those banks that still offer only a Windows-based online service have also promised services to Macintosh users in the near future.

Reasons given for the lack of Mac support have ranged from "security issues" to "lack of customer demand". Macintosh users have long scoffed at the latter reason: At Macworld Expo New York Steve Jobs revealed that 89 per cent of Macintosh users are already online.

Many disgruntled Mac fans have chosen to vote with their feet. Typical of such users is long-time Macworld reader, Rob Cousins, who has banked with Alliance and Leicester for ten years. When he discovered its Internet service was Mac-incompatible he decided to move his account elsewhere.

He told *Macworld*: "This is where it ends. I'm transferring to Lloyds/TSB. Anyone who wants Internet banking on Macs, and whose bank doesn't support it, should find another bank."

In early August, HSBC subsidiary First Direct (www.firstdirect.com) launched online services for Macintosh users. Spokesperson Nicolette Dawson says: "It's about making sure our customers have a choice, and can use the equipment they want. We have entered the online banking market later than many, but we wanted to do it right."

Other banks offering services to the Mac community include NatWest Online (www.natwest.com), Citibank Direct Access (www.citibank.com), Egg Online (www.egg.com), Cahoot (www.cahoot.com), Lloyds / TSB Online (www.lloydstsb.com) and Barclays Online (www.ibank.barclays.co.uk/online).

High-street banks such as NatWest, Barclays and

to the Mac



Lloyds/TSB offer online accounts to existing customers.

Accounts held with Egg, Cahoot and First Direct are genuine online accounts offering a range of innovative Internet services for Macintosh users. For instance, First Direct sends text-message balance statements twice weekly to account-holders owning mobile phones. The online bank also allows Macintosh users to withdraw money from any ATM in the country free of charge.

Abbey National's online subsidiary, Cahoot, has a unique partnership with the Post Office. Current-account customers have access to their cash from a choice of 18,500 Post Office branches.

A number of online banks continue to play catch-up with Macintosh users. Smile, the online division of the Co-operative Bank, plans to offer Mac-based online banking at the end of the year.

Banks supporting Macs vary in system requirements. Most require Mac OS 8.1 or better, though First Direct is friendliest to older Macs, supporting the earliest Power Macs and Mac OS 7.1. Browser requirements vary from bank to bank, but most recent versions of Netscape Navigator/Communicator and Internet Explorer are supported.

Opening an online account is easy. All banking Web sites are user-friendly and happy to signpost customers to an online application form. Potential account holders must pass the bank's entry requirements – standard for opening any online account. There is a catch: some online banks request a deposit to secure a new account. Citibank is focused on high earners, while Egg requires £1. Lloyds/TSB also requests a deposit on some new online accounts.

All online services allow customers to check balances, statements, arrange transfers, payments and bill payments 24 hours a day, seven day a week. Most offer a range of incentives to attract new customers.

Dominique Fidele

1GHz chips on menu

Motorola will discuss the future architecture of PowerPC G4 processors at the Microprocessor Forum 2000, being held in San Jose, California, from October 9-13. A revision to the G4 that uses silicon-on-insulator (SOI) technology and offers speeds over 1GHz is set to be discussed.

SOI adds a layer of silicon oxide above the silicon layer that is the foundation for any microprocessor. This allows the chips to operate with lower power consumption. IBM said its SOI technology can boost performance by 20 to 30 per cent.

"The presentation will concern what technologies are needed to operate G4 PowerPC processors at these high frequencies," said Kalpesh Gala, PowerPC product manager at Motorola. The new G4 processors, he said, will range from 300MHz to more than 1GHz.

He also confirmed that the processors will take advantage of SOI, will support AltiVec, and will be produced using copper technology.

Motorola discussed the PowerPC G5 – a forthcoming 64-bit chip – at last year's Microprocessor Forum, where the company said chips capable of speeds of up to 2GHz will be available in "one to two years". The chips will also support 32-bit processing, ensuring compatibility with current applications.

David Read



QuickTime bonus for Fiddler on the hoof

Apple calls it an "inflection point" and it's going to change the way people communicate. Industry pundits say it will create a tidal wave of employment opportunities to rival those of the desktop-publishing revolution of the early 1980s.

It is streaming video, and Apple is making a mammoth effort to showcase technologies custom-built to facilitate this latest communication revolution, broadcasting content ranging from *Star Wars* movie trailers to the Reading Festival.

New technologies always have early adopters, but since June 1999 – when Apple first announced its QuickTime TV channels – the company has focused on providing quality footage to tempt its customers into climbing aboard.

Scott Law, senior QuickTime product manager at Apple, says: "Apple's made a major investment in QuickTime. We are focused on handling gripping content."

A total of 24 hours of live footage from the Reading Festival was broadcast over three days using QuickTime via the Mean Fiddler Web site (www.meanfiddler.com). In an eleventh-hour deal, the streams were also carried by Yahoo, the world's most-visited Web address.

Adrian Barrett, of Lips.co.uk, which handles site-design and maintenance for Mean Fiddler Web sites said: "The deal with Yahoo was concluded 72 hours before the event took place. We had three days to build the extranet site to service Yahoo's feeds."

The event quickly became one of the top ten Web broadcasts of all time. It was edited, compressed and transmitted using Apple's cutting-edge technologies, Akamai's advanced edge-server network carried the data,

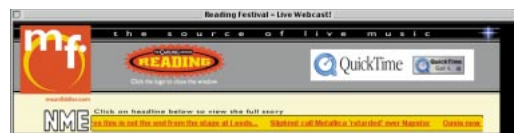


Vox hunting

iMovie's Clip Windows function was useful for editing footage of vox-pop interviews during the Reading Festival.

Festival footage

The front page of www.readingfestival.com – Mean Fiddler will have posted edited highlights from the festival by the time you read this.



and the cream of Internet professionals pitched-in to make it happen. These included Deep End – Apple's production partner for Europe; Lips.co.uk; Noisey – which streamed U2's Zoo tour; and meanfiddler.com's team of scriptwriters and presenters.

Web-casting Reading was a colossal undertaking. Three remote-video crews gathered crowd footage, and cameras at four stages filmed performances. Video was collected at broadcast quality, and, subject to licensing permission, was edited using Apple's iMovie 1.

"We needed to work very quickly," said Noisey's Graeme Kelly. "We decided iMovie was the best solution. We weren't planning any screen-wipes or dissolves, and the results are broadcast quality."

Kelly was enthusiastic about QuickTime: "This is the first big event we've done using QuickTime. It's better than Real. Apple has been brilliant. We'll never use Real again."

Adrian Legge of Lips.co.uk said: "Apple and its QuickTime team are always developer-friendly, because they're developers themselves." He praised the Qdesign codec at the centre of QuickTime's treatment of audio files, "It's a fantastic codec," he said. "It delivers excellent-quality audio streams."

Kelly said: "In a few years' time, iMovie will be a desktop standard. My son will have it on his desktop beside Word, Excel and Photoshop." Kelly added: "If PCs were as good as Apple's machines we'd use them."

Apple's Law said, "We gave practical support and we provided a team of Apple and Deep End crew. We helped with scheduling the whole event."

Maurice Power of meanfiddler.com, said: "The music business is organizing itself to accommodate the Internet. It felt threatened before but it knows it must come to terms with it. At the end of the day, you can't ignore the desires of millions of Napster users."

Go to www.meanfiddler.com for highlights of the event, which will be posted by the time we go to press. **MW**
Jonny Evans

QuickTime 5.0 alert

QuickTime 5.0 is set to debut in October at Apple's QuickTime Live! event at the Beverly Hilton Hotel, Los Angeles, from October 9-13, *Macworld* sources have revealed. The enhanced QuickTime will be more stable, and will offer much-improved streaming facilities.

Apple's killer app will be AltiVec-enabled, and will support both MPEG-1 and MPEG-2 editing and playback. An undisclosed number of other professional-video formats will also be supported. MPEG-4 support, regarded as the basis for future generations of Web-based audio, will also be enhanced. Some reports claim it will also offer enhanced support for Oracle databases.

There have been more than 50 million registered downloads of QuickTime. QuickTime Live! is designed to "help the visionaries of the creative world learn how to produce and deliver digital content", says Apple.

Apple showcased a number of features of a forthcoming version of QuickTime at the Apple Developer's Conference in May, including MPEG streaming and Flash integration.

Apple did not specify that these features will appear in the next version of QuickTime. **MW**



Mac-games of Epic proportions

Epic Interactive – which currently develops games for the Amiga, Linux and BeOS platforms – is to add the Mac market to its portfolio. Epic's manager, Thomas Steiding, revealed that Epic will release four titles for the Mac this year, with a further 12 titles to follow in 2001. These will include a series of conversions from popular PC and Amiga titles, as well as original releases.

Steiding said: "We've been very active in the Amiga market since 1992 but it has been on a downhill slide since 1995. Following talks with our developers, we knew there was only one computer we all wanted to support, because, like the old Amiga, the Mac has style, is easy to use and is user- and programmer-friendly."

Steiding added: "I think the current situation for the Mac is better than it has ever been, especially in the consumer market. It's very encouraging to see Apple take the consumer market seriously." Steiding said that game developers had neglected the Mac because of the continued success of PC gaming – which he considers to be "an inferior system". Steiding also pointed to the success of the iMac as a reason for PC games developers beginning to port titles to the Mac.

Epic's original games for the Mac will begin in November, with *Dafel: Bloodline*, which tells the story of a warrior-priest sent on a dangerous quest to save the kingdom from destruction by the forces of evil. It is being developed by the UK-based Pagan Games group. Steiding compares the game with the *Zelda* series, which became legendary among Nintendo gamers.

Solid Foundation

Next year, Epic will release *Foundation's Edge*, which the company describes as a *Settlers*-style game. The original *Foundation* title was developed for the Amiga, and became one of the platform's best-selling games of the last two or three years. It should be available in the second quarter of 2001, and will feature multiplayer networking and enhanced graphics and sound. Later on in 2001, Epic will release a *Formula One* racing game, *Virtual Grand Prix*. Steiding claims the game will be "one of the most detailed *Formula One* simulations available on any platform".

The developer will transfer three existing games titles from other formats to the Mac during 2000. Titles include *Simon the Sorcerer 2*, *Earth 2140* and *Gorky 17*.

Working with Adventuresoft, Epic will release the fantasy epic, *Simon the Sorcerer 2* on the Macintosh in September. It's a graphical adventure in a similar vein to classic adventure titles from LucasArts and Sierra Online.

"We'll also bring the sequel, *Simon 3D*, which is currently being finalized for the Windows market, to the Mac early next year," said Steiding.

Slated for release in November is *Earth 2140*, a real-time RTS strategy game, originally developed by Topware Interactive. *Earth 2150*, the sequel, has also been optimized for the Mac and should be released next year: "The *Earth* series is one of the most successful RTS series on the PC and we're pleased to bring both 2140 and its sequel to the Mac," says Steiding.

Epic will also release *Gorky 17* for the Mac this December. This is an action-adventure game with role-playing elements, which mixes 3D characters with 2D-rendered backgrounds. The plot puts gamers in the position of leading a team of NATO researchers sent to a secret Russian city. There has been an accident in a research lab, and monsters have overrun the city.

Epic is also making a major commitment to furnishing Mac fans with further top-quality titles.

Steiding said: "We'll do our level best to provide the best possible games for the Macintosh platform. Mac gamers can look forward to at least 12 titles from us during 2001."

Epic's games will be distributed in the UK by Softline Distribution, 01372 726 333.

MacCentral's Peter Cohen contributed to this report.



Easy prey

Epic's new warrior-priest game, *Dafel: Bloodline*, will be available to the Mac platform from November.



Simply Simon

The fantasy adventure game, *Simon the Sorcerer*, is set to ship to the Mac this year, with the sequel – *Simon 3D* – tabled to ship next year.

Westlake-games fillip

Westlake Interactive (www.westlakeinteractive.com) has announced it is working on three games – and the news has sparked a frenzy of speculation on Mac-gaming sites about possible titles.

Westlake is negotiating contracts with one or more publishers to bring titles to the Macintosh. Though few details are available, Westlake has assigned the projects three codenames; Cool; Hot; and Unimaginable. These join another secret Westlake development project – *Stealth*. No details regarding potential release dates were available at press time.

Westlake is also working on Mac conversions of *Rune*, the Unreal Tournament-based third-person 3D-action game from Human Head Studios and Gathering of Developers; and both *Risk II* and *Monopoly Casino* from MacSoft.

Since January, six Westlake projects have been published, not including either *Civilization: Call to Power* or *Unreal Tournament* – which were completed in December, but only began shipping en masse in January.

Recent developments include *The Sims*, *Deus Ex*, *Scrabble* and *Tomb Raider: The Last Revelation*. The company will complete four



Arm a Deus

Westlake ported the Mac version of *Deus Ex* to the Mac (see page 53 for review).

more projects this autumn. Westlake develops for a number of Macintosh game publishers, including MacSoft, Aspyr Media, Gathering of Developers and Simon & Schuster Interactive.
Peter Cohen



Corel updates ease Mac worries

Corel has updated Bryce – the popular 3D-landscape generator – to version 4.1. The company will also release version 6.1 of Painter later this month.

The titles were among those bought by Corel from MetaCreations and the updates are designed to assure users that the company is committed to the Mac – despite its financial problems and August's shock resignation of flamboyant CEO, Michael Cowpland.

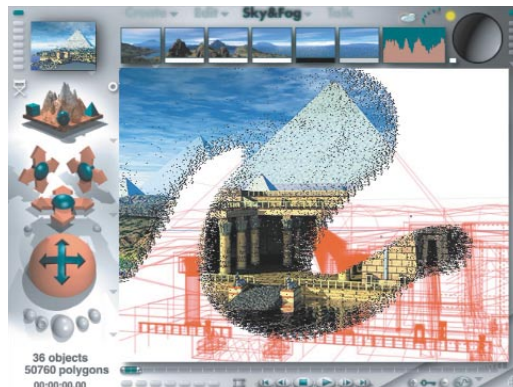
Corel is currently being run by interim CEO Derek Burney. The company lost \$23.6 million in this year's second quarter, and seems likely to lose again this quarter.

Corel's Ian LeGrow said: "We are committed to, and on track with, our Mac plans." LeGrow also revealed that Corel is revising all its Mac applications to run natively on Mac OS X.

"Corel has Knockout 1.5 and Bryce 5 up and running on Mac OS X, and Painter 7 is almost there."

He also revealed that CorelDraw 10 for the Mac will be Mac OS X-native, and that all Corel's OS X-ready products will be released when Apple's new operating system is released next year. When Corel acquired KPT, Painter and Bryce from MetaCreations, it also recruited Mark Zimmer, Tom Hedges and John Derry – former MetaCreations developers for Painter – to maintain development of the apps. They survived the company's major cost-cutting, as it sought to stave off bankruptcy.

The Bryce upgrade includes new mapping modes, and can import and export Microsoft's DirectX 3D files. A new feature is the Custom Starfield map. This replaces randomly generated star maps with a custom map, which



The Bryce is right

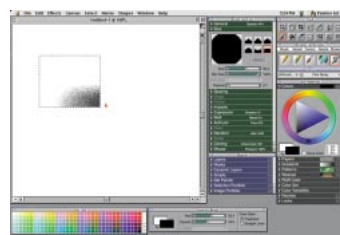
Macintosh users were concerned that Bryce would lack support from new owner Corel – but version 4.1 is now available for free download.

represents the stars as seen from Earth. Some of the upgrade features are expected to receive further enhancements when Bryce 5.0 is released later this year.

Corel also reassured *Macworld* that it will deliver updates "in the near future" to the rest of its products, including Kai's Power Tools and Vector Effects.

Corel spokeswoman, Meredith Dundas, says: "Corel is moving forward quickly on the Mac platform. We've dedicated ourselves to Mac pros, with the acquisition of former MetaCreations products. We will show our customers our commitment to the Mac is very strong."

Jonny Evans



Painter pretty picture

Corel's recently acquired Painter is now updated to Version 6.1.



Knowledge Base cuts its tech teeth

Apple has launched Knowledge Base (kbase.info.apple.com/cgi-bin/WebObjects/kbase), an enhanced version of its online tech-support service. The service will be easier to use and more focused on what Apple's customers need. It's being developed by Apple in partnership with Kanisa, which specializes in software solutions designed to provide online services that can be tailored to individuals' needs.

Apple is beta-testing the revamped service and is seeking feedback from users. A note on the Apple Web site reads: "Apple is very interested in comments with regard to interface, content and troubleshooting."

Knowledge Base support in beta form is available for products across Apple's current range. To use it, customers must create an account, log-on to the service, and be willing to accept cookies.

Apple claims Knowledge Base runs on WebCrossing software installed on five PowerMac G4s running Mac OS X Server. Apple is developing a Mac OS X native version. However, Netcraft, an online service (www.netcraft.com) that

identifies Web servers, claims Knowledge Base is hosted on a Windows 2000 system. Apple declined to comment.

The system operators admitted that "not all the features were ready to go when we launched the beta system", but added that "we're working hard to bring them to you". Once logged on, visitors can search by topic, product, or even pose specific questions.

Although Knowledge Base's Search Facility is being improved, Apple has experienced teething problems. "We are working with the vendor to improve stability."

Another feature missing in the current beta version is the option allowing customers to be notified by email when a discussion-forum reply has been received in response to a query posted by them.

Customer reaction has been mixed. One wag commented: "It's easier to install an OS than it is to navigate your forum". Paul Dunlop disagrees: "It's a great improvement," he said.

Jonny Evans

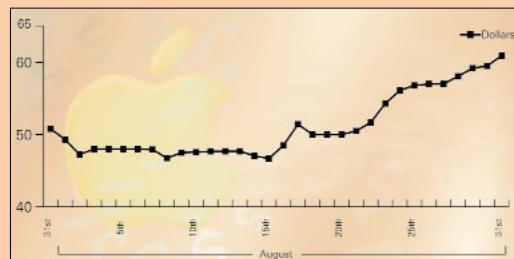


Apple stock continues to climb

Apple's worth as a public company continues to grow, with its value reaching \$60.9375 at the time of writing. Stock value climbed \$10 in the past month, with the company enjoying a number of confident recommendations from leading analysts.

The consensus is shares will reach between \$70 and \$75. JP Morgan analyst, Daniel Kunstler's target price is \$75. He said: "This is not an expensive price target when you consider Apple has \$4 billion in capital, \$1.2 billion in investments in publicly traded companies, and more invested in private companies."

Salomon Smith Barney analyst Richard Gartner also recommends Apple to his clients, and his target price is \$70. Internet analyst Wit SoundView revised its rating on Apple stock to a "strong buy" – predicting that shares will reach \$76 over the next five months.



Analyst Paine Webber upgraded its expectations for Apple, recommending its clients buy the stock, while IDEAglobal predicts up to 20 per cent revenue growth in the next year.

Apple's chief financial officer, Fred Anderson is confident the company will return a twelfth successive profitable quarter, expecting a 35 per cent growth in revenues for the 2000 financial year.

Apple aims to double its share of the \$215 billion computer market within two years.

Analysts say sales aren't peaking in the current quarter, because the mid-range Indigo iMac is yet to ship, and no new Apple products were available in the first few weeks of the current quarter, which began in July.

Most analysts believe Apple has stolen a march on its competitors in the personal computer space, due to its distinctive design style. The G4 Cube has charmed the usually frosty hearts on Wall Street, receiving a number of positive recommendations from the mainstream US press, including the *New York Times* and *Wall Street Journal*.

Apple's lowest point in the last 12 months, taking into account this year's stock split, was \$28.

Jonny Evans

Nvidia counter-sues 3dfx

Nvidia has filed a patent-infringement suit against 3dfx. Nvidia alleges that 3dfx has violated five of the company's patents.

Nvidia is seeking damages and applying for an injunction to stop 3dfx from manufacturing, selling or importing offending graphics chips and cards.

The move follows an earlier suit filed by 3dfx against Nvidia in September 1998. The final results of this lawsuit are pending.

The 3dfx products in question are Voodoo3, Voodoo4 and Voodoo5 chips and the VSA-100 product family. The VSA-100, or Voodoo chip, is used by the US military to create training simulations. 3dfx launched the Mac-compatible Voodoo5 5500 graphics card at Macworld Expo, New York (see *Macworld*, September 2000).

3dfx will fight the suit. Alex Leupp, president and CEO of 3dfx says: "Nvidia's suit

is clearly an attempt to force a settlement of our existing patent-infringement suit against the company, and we believe it shows a lack of belief in their defence.

"We are committed to protecting our intellectual property and maximising the financial benefits of our technology for our shareholders."

He added: "We regret that Nvidia feels compelled to resort to these kind of actions in defence of the pending litigation. 3dfx will vigorously defend itself against this litigation."

Nvidia produces graphics-processing technology for the entire desktop computer market. President and CEO of Nvidia, Jen-Hsun Huang,

says: "We have always been at the forefront of innovation in 3D graphics technology and visual computing. "This innovation is achieved through the annual investment of hundreds of millions of dollars in research and development. We cannot allow the fruits of this investment to be misappropriated."

3dfx provides the technology to create high-impact visual experiences, producing games, educational content, interactive entertainment and business applications.

Earlier this month 3dfx announced the shipment of the Voodoo5 upgrade for PCs.

Both upgrades are based on 3dfx's VSA-100 chipset which offers enhanced visual features than the company's previous upgrades. Both sets of litigation remain outstanding.

Dominique Fidele

Business briefs

■ Apple CEO Steve Jobs' other company, Pixar, surprised analysts in its second-quarter figures, by earning \$8 million, compared to \$6.4 million in the same quarter last year. Gross revenues rose from \$13.5m a year ago, to \$18.3m this year.

■ Samsung, in which Apple has a \$100 million investment, has opened a new production line for liquid crystal displays at its facility in Korea. Total capacity at Samsung will now reach up to 1.2 million panels per month.

■ The worldwide LCD-market will be worth \$42.2 billion in 2006, say analysts IDC. It reveals Samsung is the world's largest manufacturer of TFT-LCD panels, with 20.5 per cent share of global market share.

■ Aladdin Systems reported losses of \$7,222 for the second-quarter. The company put a positive spin on the figures, saying that sales costs had decreased by eight per cent in the quarter, with a seven per cent increase in Web-based sales.

■ The European Commission is to commence legal proceedings against Microsoft. If found guilty of charges – which include discriminatory licensing – Microsoft could face financial penalties.

■ BT is facing a £37m lawsuit over allegations that it has failed to deliver on a contract for wholesale unmetered Internet access. The suit is threatened by UK ISP Zone Corporation.



HP's Mac-printer blitz



Hewlett-Packard has released four USB printers – the DeskJet 990Cxi, the DeskJet 930C M, the PhotoSmart 1218 and the PhotoSmart 1215 – as well as the ScanJet 5370C scanner.

HP's PhotoREt III Precision technology, that the company claims delivers photo-quality results on a range of papers, comes as standard with all the printers. The system can place up to 29 drops of ink on a single pixel, creating up to 17 shades per primary colour, per dot.

The DeskJet 930C M prints black text at up to nine pages per minute (ppm), and colour pages at up to 7.5ppm. It has a default resolution of 600-x-600dpi, but can print at up to 2,400-x-1,200dpi on photo paper. It costs £169.

The photo-quality DeskJet 990Cxi costs £212 and can print at up to 17ppm. The £212 PhotoSmart 1218 and the £280 PhotoSmart 1215 offer the same specs as the DeskJet 990Cxi – though the PhotoSmart 1215 prints at 15ppm – with the addition of CompactFlash and SmartMedia memory-card slots, to print directly from a digital camera. Both come with 16MB RAM as standard and have a 96MHz digital-processor for data formatting and image processing.

The 990Cxi, 1215 and 1218 offer infrared wireless-printing and optical paper-sensor options. They ship in October.

The infrared feature is compatible with infrared-enabled Macs, certain digital cameras, some handheld computers and a number of mobile phones.

All three printers offer duplex printing, a print-cancel button, low-ink warning and automatic print-cartridge alignment. The PhotoSmart 1215 has a 4-x-6-inch photo-paper tray and black-&-white and sepia modes. The DeskJet 990Cxi Professional Series has a 150-sheet paper tray.

HP has also announced the ScanJet 5370C. The network scanner comes with a transparency adaptor, and offers 42-bit colour depth, and a 1,200dpi optical resolution.

New features include a Scan-to-Web function, that launches a Web browser, connects to selected Web sites, and then scans an image to an appropriate resolution for the Web. It connects via USB, and offers four one-touch front-panel buttons for scanning, colour copying, emailing and faxing.

A £127 optional 25-page automatic document-feeder is available. Bundled software includes HP PrecisionScan Pro, ReadIRIS OCR software, Scansoft Paperport document-management software and Corel PhotoPaint 8.0. The scanner costs £160.

Hewlett-Packard has set up an HP Mac-connect team to evangelize for the platform and to ensure that future HP products will offer Mac support out of the box. HP's Uwe Krill said: "Macintosh is a very important market for us."

Hewlett-Packard, 08705 474 747



Desktop range

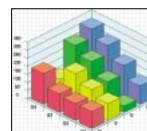
The photo-quality DeskJet 930C M (above, top) can print at 7.5ppm in colour mode. The DeskJet 990Cxi (above), like the 930, is a USB printer and comes with SmartMedia slots for printing directly from a digital camera. HP's PrecisionScan Pro 2.5 software is bundled with the ScanJet 5370C (below) and offers multi-language Optical Character Recognition (OCR). See Reviews pages ??? for more on the DeskJet 930C M and the ScanJet 5370C



Charting business

Concept Draw 1.5 is the new version of Odessa Systems' cross-platform application for business and technical drawings. Files created in the app can be opened across both Mac and Windows platforms. The software costs \$125.

Concept Draw, www.conceptdraw.com



Chaotic management

Radiologic has released its hard-drive management utility, Chaos Master. It offers 14 disk- and file-management utilities, varying from a quick-check wizard to an advanced mode for updating applications via VersionTracker. The utility can clean-up Internet cache files, and uninstall unwanted applications. It costs \$59.95 online.

AM Micro, 01392 426 473

Web-stat attack

Webfeedback is a cross-platform application from Cyberware. It combines structure and log-file analysis, to offer Webmaster's visual-statistical analyses of navigation paths taken by site visitors, the number of visits and per-page times. The application also checks for broken links. It costs \$298.

Cyberware, www.cyberware-neotek.com



A fine pic

Fujifilm has announced the FinePix 4900 Zoom. It has a 6x optical-zoom lens, and can save at three different levels of JPEG compression, holding up to 45 low-res images, or a single TIFF, image on a 16MB SmartMedia card. It shoots at five-frames-per-second for one second in continuous-shooting mode, and offers white-balance and sharpness controls. The USB FinePix 4900 Zoom has an automatic flash, and a 1.8-inch colour-LCD monitor with 110,000 pixels.

Fuji Digital, 020 7465 5745



Evergreen fires CD-RW salvo

Evergreen Technologies has released its portable FireWire CD-RW drive.

The CD-RW measures 10-x-6-x-2 inches, and costs £297. It comes with an installation guide, FireWire cable and one year's warranty. The product



supports both Macs and PCs. FireWire can support up to 63 peripherals connected to the Mac, and data can be transmitted at 480Mbps, rather than the 12Mbps currently available with the USB standard. The device is suited to archiving large images and video files, as its speed lessens the potential for dropped frames.

Evergreen, 01793 601 300

continues page 40

CDs & Books

Discover the mind

Montparnasse Multimedia has released *Secrets of the Mind*, its multimedia exploration of the inner workings of the human mind.

Features include talks from 11 psychologists, with five hours of video and animation and

15 interactive experiments. See Reviews page ??? for more details. *Secrets of the Mind* costs £19.99.

Interactive Ideas, 020 8805 1000

Office for kids

Softase has released *Textease Studio*, a set of tools for educators combining *Textease 2000*, a word processing package, *Textease*

Spreadsheet, a numeracy tool and *Textease Database*, which can be used to store pictures and sounds as well as numbers. *Textease Studio* costs £149.

Textease, 01335 343 421

Musical magic

Adiboo is a "magical character" who will guide 4-7 year olds through four modules, teaching them the basics of music. *Adiboo I Make Music from Knowledge*

Adventure is a series

of interactive activities with three difficulty levels. The program supports the National Curriculum

for Music Key Stage One. It costs £19.99.

Havas Interactive, 0118 920 9100

iMac-tuition guide

Fresh from IDG Books this month comes *Teach Yourself the iMac Visually* – a guide to the iMac. It guides readers through the software, operating system and uses of the computer. The book costs £28.99, but is available at up to 35 per cent off from

www.macworld.co.uk/readersoffers, or call 020 7831 9252

Olympus scales new heights



Picture this

The Olympus C-2100 is first digital camera by the company to compensate for shake.

Olympus is set to ship the C-2100 Ultra Zoom, a 2.1-megapixel digital camera with a 10x optical zoom. The camera will cost £766, and is based on a silver-metallic, single-lens reflex design taken from Olympus' "prosumer" range of film cameras.

It's the first Olympus digital camera to compensate for camera shake, and features an all-glass f2.8-to-f11 aspherical-zoom lens – the equivalent of a 38-380mm lens on a 35mm camera. The lens also includes 49mm threads for accessory lenses and filters.

The camera uses a 0.55-inch electronic-colour viewfinder. This "non-optical" feature may lack the depth-of-vision that the a traditional viewfinder has. Additionally, the C-2100 Ultra Zoom can't use the 1.8-inch colour-LCD monitor for framing shots.

Its built-in flash can be operated in auto, red-eye reducing, fill, and slow-syncro modes. The camera automatically sets the white balance, although it can be set manually. A 16MB internal-memory buffer speeds image-capture, allowing a burst mode of three frames per second.

The C-2100 can capture images at 1,600-x-1,200, 1,280-x-960, 1,024-x-768, and 640-x-480 pixels. It stores them on removable SmartMedia cards – an 8MB card is included – and has a USB connection for uploading images to a Mac.

The C-2100 Ultra Zoom can capture 15-frames-per-second QuickTime movie clips with sound recorded from its built-in microphone. The camera can shoot 35 seconds of 320-x-240-pixel QuickTime clips, or 135 seconds of 160-x-120-pixel clips. These are viewable on a television using the video cable provided.

Olympus, 0800 072 0070

A flat lot of good...

ViewSonic has expanded its LCD ViewPanel range with the VG181. It features OptiSync technology, which is compatible with both digital and analogue signals.

The monitor has a compact footprint – just 6.7 inches deep – and weighs 10Kg. It offers an 18.1-inch viewable screen with a resolution of 1,280-x-1,024 pixels.

The display can be wall-mounted, has a removable base and a 160-degree viewing angle. It also features height, tilt, swivel and portrait functions. The VG181 has easy-to-use digital controls for precise display settings. Available now, it costs £1,795, and comes with a three-year on-site warranty.

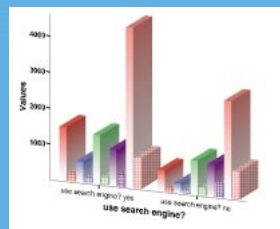
ViewSonic, 0800 833 648

Stat attack for Macs

SPSS has bought its statistical solution back to the Mac for the first time since 1995. Called SPSS 10.0 for Macintosh, the software can analyse statistical data, offering predictions and identifying trends.

Developed with MacKiev, the program runs as a native Mac app. Reports can be made in tables,

graphs, or written formats, and more advanced analysis procedures are also available. The server version of the product ships later this year. SPSS 10.0 for Macintosh ships in October, and requires a G3 processor or better, Mac OS 9.0.4 and 64MB memory. It costs £677. **SPSS, 01483 719 200**



Number crunching

SPSS can identify groups within given statistics, and analyse known customer groups.



Sporting life

Cadmium is shipping the royalty-free *Adventure Sports CD*. Images of mountain bikes, rock climbing, wind-surfing, sailing, wakeboarding and snowboarding jostle for attention on this 100-image CD, part of Cadmium's Master Collection. It costs £190.

Corbis, 0800 731 9995 or www.corbisimages.com

Epson's autumn roll-out

Epson has released four colour ink-jet printers, a laser printer and has revitalized its scanner family. The Stylus Color range now includes the 580 and 680 – to launch in October – and the 880 and 980 models – to launch in September.

The Stylus Color 580 is a 1,440dpi (dots per inch) printer, aimed at budget-conscious buyers. The printer's functions are controlled through the print driver.

The Stylus Color 680 offers resolution of 2,880dpi. It combines 4 picolitre (million millionth of a litre) ink droplets for fast, accurate results. The printer has an output tray that doubles as a dust cover when not in use. A transparent-blue model is also available.

The Stylus Color 880 has a 2,880dpi resolution and replaces Epson's USB and parallel Stylus Color 860 printer. It prints at 11.5ppm in colour.

The Stylus Color 980 also has a 2,880dpi resolution, with duplexing and book-printing options, USB and parallel connectivity and can print 12.7ppm.

Epson has also launched its next-generation scanners – the Epson Perfection family. All come with Epson's SmartPanel software – for scanning directly to email, optical-character recognition, and photo-editing apps. The Epson Perfection 640U for USB will offer 600-x-2,400dpi resolution. The £119, 36-bit scanner launches in September.

The 1,200-x-2,400dpi, 42-bit, USB Epson Perfection 1240U scanner comes with a three-button control panel. Also available is the 42-bit Epson Perfection 1240U Photo, which has an adaptor for scanning negatives and slides.

At the high-end of the range is the 42-bit 1640SU series. The scanners have 1,600-x-3,200dpi resolutions, with both USB and SCSI connections. The Perfection 1640SU Photo adds a 4-x-5-inch film adaptor for negatives and slides. The Perfection 1640SU Office has a 30-sheet built-in document feeder.

Epson's new AcuLaser C2000 A4 laser printer also debuts. It costs £1,599 and outputs a five A4 ppm in colour, and 20 in ppm black-&-white. It has a default resolution of 600-x-600dpi but can print at 2,400-x-600dpi.

Epson, 0800 220 546



Printability

The Stylus Color 880 (above) is part of Epson's latest printer range – it has a 2,880dpi resolution. The AcuLaser C2000 laser printer (left) can print five colour-pages a minute.

'Receptionist of the future' launched

Robson Telecom has launched Robson, its desktop phone- and fax-management system for small and home office (SoHo) users. It's a combination switchboard, messaging and call-forwarding service, and is priced at £399.

Robson can handle two trunk lines, four

extensions and four more virtual extensions – useful for complaints and subscription enquiries. The trunk lines can be analogue, ISDN, ADSL, mobile or cellular. **Robson, 01344 871 350.**

Product News continues page 42



Electronic filter

Robson can deliver a pre-set greeting, and then alert the recipient of the call.

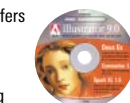
Cheaper printing

For budget-conscious consumers, Lexmark is introducing the Z12 Color Jetprinter. It delivers 1,200-x-1,200-dpi resolution on all paper types up to 270gms. It prints at up to six pages per minute (ppm) in black-&-white, or three ppm in colour. The printer has software-based controls. USB and parallel connections are supported. The Z12 costs £59. **Lexmark, 01628 481 500**



Encryption stalwart

VSE My Privacy 1.2 offers military strength data protection. It hides confidential files using an encryption algorithm called Blowfish, that has never been broken. In this revision, an automatic save-&-fast-copy feature have been added. The single user-license costs \$19.95. **Voget Selbach Enterprises, www.vse-online.com/my-privacy**



USB mixer

Lindy has launched USB Link, which allows fast peer-to-peer transfer between two computers via USB ports. It offers 4-8Mbps transfer rates and supports mixed-platform networks. USB Link features a print function for remote files, power management and remote wake-up functions. It costs £35. **Lindy, 01642 754 000**



Working reality

VR Worx 2 is a suite of authoring tools for QuickTime VRT, and can be used to create panoramic movies in QuickTime. The full version costs \$299.99. **VR Toolbox, www.vrtoolbox.com**



Wordless app

Panergy has released iCWord, a utility that lets Macintosh users open, view and print Microsoft Word files without using a Microsoft product. The application costs \$19.95. **www.icword.com**



Apple updates

Just two International English updates from Apple this month. Visit *Macworld's* updaters portal page at www.macworld.co.uk/updates for links to the correct Apple Software pages. AirPort 1.2, enhances

performance, compatibility and stability. It offers extra functions, including the ability to set-up a closed network. This means potential AirPort-network users must know the exact network name to join it, enhancing security. The software also has a revised default configuration, making it easier for the base station to communicate with ISPs.

AEFW to MM Transition 1.0 is a PDF document with information on converting existing At Ease 5.0.2 servers with AppleShare IP to Macintosh Manager. This information is vital for the correct use of two updates released last month – Mac Management Server 1.2.2 and Macintosh Manager 1.3.

Third-party updates

■ Cinema 4D XL

Version 6.1

New features include a software-developers kit and plug-in architecture, improved texture- and shade-handling and speed increases.

■ Silverlining Pro 6.3

Offers USB and FireWire support, improved file-transfer performance and caching. It also improves compatibility with Norton Disk Doctor for HFS+ partitions.

■ SoundJam MP 2.1.1

For both the free and pro versions of the popular MP3 application, this update improves sound quality for some USB subwoofers, and fixes a jerky cursor problem in version 2.1.

■ TechTool Pro 2.5.5

This will only update TechTool Pro 2.5.4 to 2.5.5 not earlier versions of the program. The update offers improved compatibility, detection and repair routines.

■ Vicom FTP Client 3.1

Offers better bookmarking of favourite sites, KeyChain support and a more intuitive interface.



LaCie driving storage forward



Battering RAM

The LaCie DVD RAM 94 is equipped with an MPEG decoder, and the drive can be used for DVD playback.

LaCie has launched a FireWire drive – the LaCie DVD-RAM 94. This rewritable-DVD drive offers up to 9.4GB per disc in storage capacity. 4.7GB single-sided DVD-RAM discs are also available.

The hot-swappable drive has a transfer rate up to 22.16MB/second, and has a seek time of 95ms. The 4.7GB disc can store a two-hour cinema-quality video on a single side. The media can also store data, graphics, document or video files and the drive mounts automatically. The LaCie DVD-RAM 94 can read all currently available DVD-RAM media – regardless of size – including CD-ROMs, audio CDs, CD-Rs, CD-RWs and video CDs.

Available in October, the drive ships with LaCie's DVD-RAM UDF-formatting software, and one 9.4GB DVD-RAM disc. The 4.7GB FireWire

DVD-RAM drive costs £529. The SCSI version – available later this year – will cost £569. DVD-RAM media cost between £17 and £25, depending on size.

LaCie, 020 7872 8000

Colour proofers let RIP



Support group

The iProof RIP supports HP's entire 900 and 1200 ranges, including the 1220Cxi and 970Cxi, and many of Epson's printers.

iProof has launched a set of RIP solutions for Epson and Hewlett-Packard printers.

PowerRIP 2000 software enhances HP 900 and 1200 series ink-jet printers, offering PostScript Level 3 support. This means HP's ink-jets can be used for proofing. The software enhances the printers' driver software, and returns accurate colour-proofs. It can deal with PostScript, PDF and EPS files in a stand-alone or client-server network. PowerRIP 2000 owners get new print drivers free from iProof for a year after purchase. PowerRIP allows designers to create proofs to match the colour of printing presses using ICC or ICM colour profiles.

PowerRIP 2000 solutions also exist for more

than 40 Epson printers, including the 870 and 1270 printers, and Epson's Stylus Photo 2000P, Stylus Pro 7500 and 9500 printers. iProof has also developed proofing solutions for Epson's new pigmented-ink printers – the Stylus Photo 2000P, Stylus Pro 7500 and Stylus Pro 9500. PowerRIP 2000LF is also available, which contains the drivers of the PowerRIP 2000 Epson product, adding support for Epson's large-format ink-jet printers. It adds advanced colour-management and postscript-printing features, and supports the Epson Pro 9500, 9000, 7500 and 7000.

PowerRIP 2000 for HP or Epson printers costs £169. The PowerRIP 2000LF costs £429.

AM Micro, 01392 426 473

Monitor on the go

Margi Systems has announced its Display-To-Go card, a 4MB Type II PCMCIA upgrade for PowerBook G3s.

It bridges the gap between PowerBooks and digital monitors, including Apple's DVI-based 15-inch and 22-inch Studio and Cinema Display. VGA displays are supported and an additional output-device can also be used.

The card ships with an on-screen set-up feature, and works with any G3 PowerBook running Mac OS 9 or later. It carries a 64-bit

graphics engine and 4MB on-board graphics memory.

Margi Systems says it's working on an adaptor for Apple's new range of ADC displays. The Display-To-Go 4MB card is currently available either as a DVI-or-VGA compatible kit, packed with either a DVI or VGA cable. Expected to ship in the US from August 21, the card costs £300. It needs Mac OS 9.0 or later to work.

TMN Technology, 01428 708 000.



*DVI to go
The Display-To-Go card supports resolutions up to 1,600-x-1,200 and refresh rates up to 85Hz.*

Mac OS X will signal the end of painfully long start-up times.

David Fanning



Start-staring mad

There's something wrong with my Mac – unsurprising, really, as it's the office test-bed for all kinds of hardware and software. The problem I have is restarting: it takes around seven and a half minutes. I can do a lot in seven and a half minutes – go get a sandwich from the shop next door, or smoke a cigarette perhaps. Mostly, though, I end up watching the parade of extensions troop across my screen.

I finally decided to do something about this Long March of extensions. After all, surely I can't need all of them? First, I took a tour through my system folder – there were 328 files in my extensions folder.

The RAID software, for example, takes a while to load, but had to stay, because two RAID arrays need two sets of RAID software. Then there are the USB extensions for the joystick, graphics tablet, scrolling mouse, scanners, printers and the Visor docking cradle. I don't have them all plugged in at once, but most of them are in use and the extensions have to stay. Then there are the extensions for video cards, accelerator cards, FireWire devices, hard drives, video cameras, and CD re-writers. This is all stuff I use on a weekly – if not daily – basis.

So what, exactly, did I manage to ditch? Well, only 30 that weren't absolutely essential. There were a couple of extensions relating to software I've never heard of – there always is – and there were a load of printer drivers for printers I never need. A couple of old QuickTime 2.5 components had also evaded deletion, but that was about it. This left me with 298 essential extensions and a startup time that still exceeds the seven-minute mark.

Mercifully, there is an end in sight to my start-up purgatory. Apple is working on eradicating excessive startups times – but not by speeding the loading time for extensions, or by etching the system into the silicon itself. No, Apple's getting us to leave our machines on. In fact, Apple would like you to never turn-off your Mac again, which is why off-buttons are becoming more discrete on the new iMacs and the G4 Cube. Cooling fans are also becoming a thing of the past, as only the G4 towers still have them.

Now that vented Macs, such as the Cube and the new iMacs, can get by just by using heat-sinks to release heat, computers have become quieter. In contrast, my Frankenstein's monster at home is so full of upgrades and a RAID array that the lid doesn't fit anymore. Hitting the startup key starts a cacophony of whirring and shrieking that sounds more like a Harrier jump-jet than a computer. I long for the day when my machine can stay running

without that incessant high-pitched whine that delights dogs, but depresses me.

As I wait a new Mac to top my family's shopping-list maybe I should soundproof my machine. All I need is a roll of foam and a few dozen egg boxes.

Apple has come up with the concept of taking the Mac beyond sleep and into hibernation.

Sleep spins down the hard drive and shuts down the monitor. Recent Mac OS versions have gone further, cutting power to the PCI cards. Hibernation mode is where the Mac shuts down its functions and cuts power to the hard drive, video card and other power-guzzling components. Eventually your Mac will just use enough power to keep its power light glowing. When you need to use it again, it'll be ready for action in one second, rather than minutes. It isn't the same as a quick startup, but the results are the same – so who cares. With my current setup, this would probably save me around five hours every week.

Sometimes, though, a restart is necessary – but there's an end in sight to this: Mac OS X. Apple's new operating system, a beta of which is due shortly, won't require a restart just because some software has committed hare kare. In OS X, memory is protected, so the software is free to crash, but won't bring down the rest of the system, or any other software that's running. This is an exciting prospect.

One reason for restarting is software installation. Unfortunately, this will remain the same under OS X – but at least software installation isn't an everyday event for most Mac people – even if it is for me.

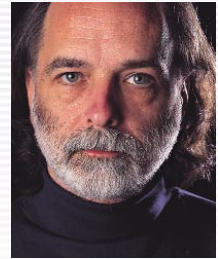
Those in the know are predicting Mac OS X Client beta will be launched at the Paris Expo, although the final release version isn't likely to see the light of day until early next year. Even Apple isn't predicting when it'll be pre-installed on new machines – but many Mac fans will likely have made the transition by the end of next year. Stragglers may wait until a new machine is within budget rather than installing OS X on an older model. In two or three years the vast majority of Macintosh users will have made the change.

By this time, maybe a new version of the OS X – OS XI? – will allow us to install new software without a restart. My Utopian view is that, one day, we'll be able to start your Mac out of the box and shut it down when it's ready for the junk yard. Then the word restart – and that endless parade of extensions – will disappear from computing consciousness.

mw

Off-the-peg clothes with in-built wireless devices are set to take off

Michael Prochak



Gadgetry wearing thin

I think it was Thoreau who said we should beware any enterprise that requires new clothes. As someone who's never been able to get their head around how women can spend over £300 for a pair of Prada shoes – and who still considers a suit 'fancy dress' – designer clothes and the concept of fashion have never really been meaningful subjects for inner contemplation.

But if the idea of paying an exorbitant price for an item of clothing just because it's got a designer label sounds twisted, how weird would it be to start wearing bits of your Mac? The idea of a wearable computer isn't new. It's been around in sci-fi novels for years. For example, in his novel *Snow Crash*, Neal Stephensen describes a 'plugged-in' society where geeks have turned technology into fashion accessories. Instead of using iMacs, or even WAP phones, they have an embarrassing habit of wearing their computers as clothing.

Although a few years ago this may have sounded as stupid as Viagra eye-drops that make you look hard, next month the first designs from ICD+ – a joint venture between Netherlands-based Electronics company Philips and the US jeans giant, Levi Strauss and Co – aim to make sad science-fiction, sad science-fact. The collaboration will be bringing out four jackets equipped with a Philips-made GSM mobile phone, MP3 player, and a remote-control device to operate both. The target audience is those people in search of a life on the move and who feel the need to be connected to technology at all times. And if you think Prada shoes are expensive, wait till you see what these puppies cost.

Despite the potential of such wearable gadgets, fright-merchants have already been whittering on about the potential harmful bodily effects such clothing may cause. With the abundance of reports being released linking mobile-phone usage to cancer, memory loss and I forget what else, many medical experts are concerned that devices such as these, worn in close proximity to the body, may prove to be even more dangerous.

Up to now, there are no conclusive studies that prove mobile phones pose any threat or leave lasting damage – but health organisations are urging the use of hands-free kits, such as headsets that keep mobile phones away from the body.

So, I suppose that's why the mobile phone which is

built into the ICD+ jackets is a hands-free phone with the earpiece located beneath the shoulders of the jacket and the microphone built into the collar. Whether or not the final product that Philips and Levi Strauss produce is one that's practical, or even fashionable, remains to be seen.

What this does do for both companies is raise the hype and shove their names into the techie spotlight. As more and more consumers use wireless devices, concerns over health worries will mount. But you can bet that this won't put off the geeks and, as we've seen, mobile technological advancements continue to motor on. You can also bet that this is only the first of undoubtedly many 'wearable computer' devices.

The thing nobody has addressed with wearable technology yet is how do you wash this stuff? Can you throw it in the tumble dryer? Can you iron it? It would be cool to be at the forefront of pervasive computing, but not at the expense of clean clothes.

I suppose with the development of polymer semi-conductors, solar power-cells and reversible optical-media used in fabrics, we may soon get a whole new slant on power-dressing. Not only that, fashion designers and computer-generated imaging types can hit a whole new consumer market. All you need is for some nerd with a bad hair-cut and a big company in Redmond to market uploadable shirts, jeans, suits, sexy underwear and you've got a ready market for all sorts of weird and wonderful digital designs.

If you could figure out how to keep them from smelling, you'd never have to change your clothes. You could simply upload a suit design in the morning and when you got back in the evening, bin the app and upload a trendy casual number before going out clubbing.

While changes in the Macintosh's look has always reflected style and inner change, Steve Jobs just hasn't grasped the fact that the future is fashion and fashion means clothes. Of all people, he should remember that back in the 60s, Marshall McLuhan suggested that electronic technology was bringing us rapidly to the final phase of the extensions of man, to the "technological simulation of consciousness, when the creative process of knowing will be collectively and corporately extended to the whole of human society". And why not.

Apple already has the name – so when are we going to see the coat?

mw



Macworld Rating

★★★★★/9.0-10.0 = OUTSTANDING

★★★★/7.0-8.9 = VERY GOOD

★★★/5.0-6.9 = GOOD

★★/3.0-4.9 = FLAWED

★/0-2.9 = UNACCEPTABLE



Web-content creation tool

Adobe GoLive 5.0

Publisher: Adobe www.adobe.co.uk

Distributor: Computers Unlimited (020 8358 5857)

Pros: Familiar Adobe interface; 360Code; Dynamic Linking; customizable shortcuts.

Cons: History palette isn't much use in the real world.

Minimum specs: PowerPC; Mac OS 8.6 or higher; 48MB RAM; 70MB hard-disk space.

Price: £199; upgrade, £65 (both prices exclude VAT).

Star Rating: ★★★★★/8.9

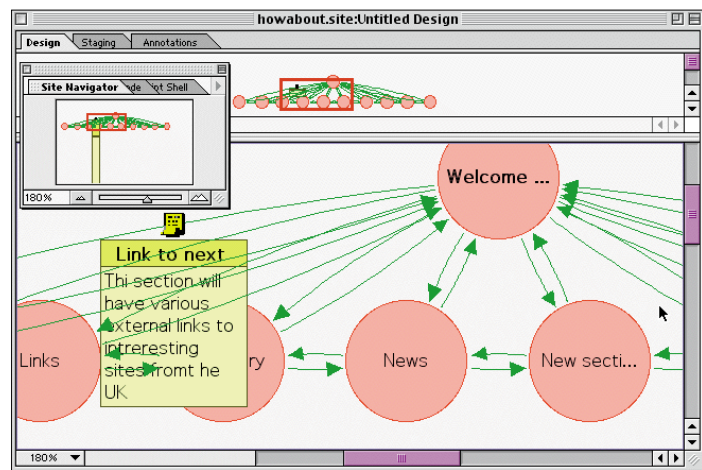
The long wait for GoLive users is finally at an end. Adobe has just released the upgrade to its Web-design layout tool, and main competitor to Macromedia's Dreamweaver.

Adobe boasts that there are over 100 new features in GoLive 5.0. I won't be able to cover every one of them here, so I'll concentrate on the biggest and most useful additions. GoLive should be straining at the seams to hold all these new features, but it's not – it's still a very neat piece of software.

Thankfully, this is not just a catch-up upgrade from version 4.0, although GoLive 5.0 has had a lot chasing to do to compete with Dreamweaver 3. In the year since GoLive 4 was released, the technological advances on the Internet have left designers needing new functionality.

HTML interloper

The increasing use of database-application servers to run Web sites has forced many designers to integrate non-HTML tags into their neat HTML pages. Unfortunately, many GoLive fans were reluctantly forced to change to using a plain-text editor once their



Eye for design

In GoLive 5.0, prototypes of site designs using groups, sections and annotations can be drag-&-dropped from the object palette.

work involved adding custom code. GoLive didn't understand the customized code, and ended up changing it. Now, the gnashing of teeth and pulling of hair is over. Adobe has called its revamped HTML-control 360Code. It's the same idea as Macromedia's RoundTrip HTML and something that should have been supported since day one. It's more of a bug-fix than a new feature and means GoLive doesn't mess-up your code anymore, thank goodness. This is because GoLive no longer treats custom tags as errors. The ColdFusion tags in Macworld Online pages were clearly shown as items on the layout page – instead of receiving an error warning for malformed tags.

Familiar feel

The other major change is the introduction of Adobe's famous user-interface. The familiar palettes and menus are now fully Adobe-ized, and are easy to use.

Thankfully though, the groovy GoLive interface functions are still there too. For example, the palettes can still be docked as tabs to the edge of your screen. Simply control-click the top bar and they snap to the side, freeing-up monitor space when they're not in use.

All the GoLive functionality works in the same way, but with more familiar looking buttons and input boxes. CSS, dynamic HTML, precise pixel-perfect placement and cross-browser comparisons are all still there. There are a huge number of different drag-&-drop options – easily accessible via the familiar interface.

New features include customizable

shortcuts and extensibility using JavaScript – and all W3 standards are supported.

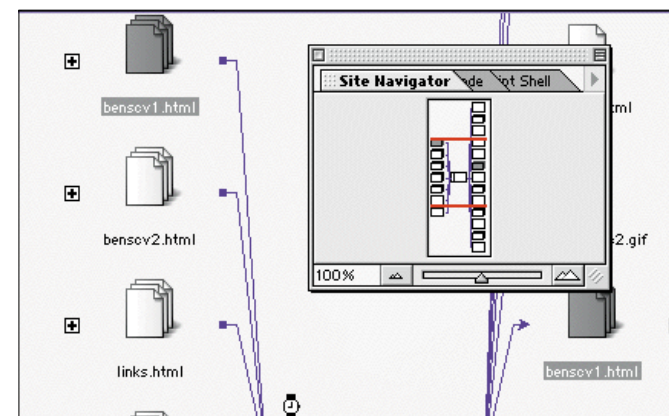
Design updates – the new Smart Objects feature – allows tight integration with the rest of Adobe's design products. Photoshop layers are also a part of the improved workflow. Photoshop 5.5's save for Web is now integrated into GoLive. For last minute updates to your pages or graphics, you can add your own Smart Objects by clicking the icon. With the Smart Object place holder, selected in the composition window, the relevant Smart Object icon can be dragged into Photoshop. This can also be done by using the point-&-shoot button, or by drag-&-dropping from the desktop, or site window.

Double-clicking the Smart Object icon in your layout window will open the source application and allow you to edit, add effects, resize and save for Web. Back in GoLive, the Smart Object is automatically updated to reflect the changes made in Photoshop. Smart Objects works with LiveMotion and Illustrator, too.

Just like Macromedia, Adobe has added a tracing-image capability to GoLive 5.0 – and its level of opacity can be altered using a sliding-rule tool. Precise placement on the page is achieved by setting pixel dimensions in the palette, or by drag-&-dropping on to the page.

Looking back

A Photoshop-like History palette has been added too. While not only supporting multiple undos, GoLive 5.0's new History palette keeps track of



Moving on

New options in GoLive's navigation window include planning a site's structure.

changes made during design in the source mode, or layout mode. You can jump backwards to earlier versions to see exactly how a certain element was created, or merely to start over from a certain point in design.

The default number of steps recorded is set at 20, but that can be increased, although this will also increase the amount of memory need to run the application. However, the History palette is cleared if you swap to another mode while in the same page, which can be annoying. It would be much more useful to be able to store or save the History palette in some way.

The ability to easily control HTML tables is as important to Web designers as brushes are to painters. Previous versions of GoLive's table-creation and manipulation features were considered outstanding. For the first time, designers could get real control of what was once a boring slog of a job in a text editor. And, because of this reliance on using tables to correctly place elements on a Web page, designers need to have full control and easily editable HTML tables.

The new Table palette is more intelligent, provides extra control and helps you manipulate cells, rows and columns of tables easily. Adobe has included more pre-defined table styles, useful for smartening up long-winded tables. The palette replicates an outline of the table structure in miniature. By clicking on one of the cells in the palette to highlight it, you also see it highlight in outline on the composition page.

Storyboard

The Site Design function is one of my favourite new features, especially as no other Web-design program has this. A site's structure and navigation can be

planned within GoLive in prototype mode. This can then be shown to designers, to give a sense of how a site should look.

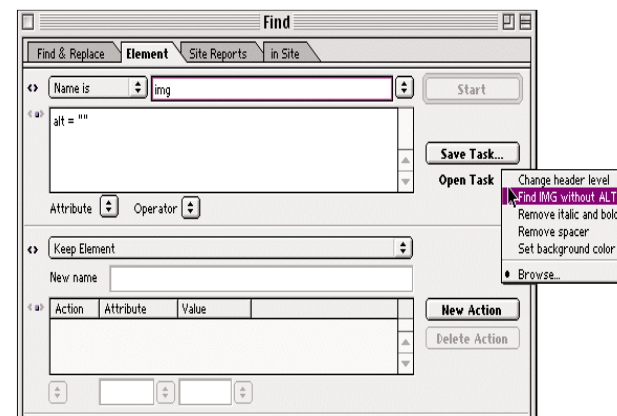
The elements and files stay strictly visual until it's being built. It's like having a built-in storyboard writer. Using the Design tab under the site menu, a new site diagram can be created and named. Annotations, that consist of a subject line and content box, can be added to keep notes on groups of pages.

Adobe has added a new feature called Dynamic Link to GoLive 5.0, offering the same functionality that Dreamweaver UltraDev has. Dynamic Link allows users to visually design dynamically-generated Web pages. It connects the visual interface – that users see in their browsers – to a back-end database server, churning out all the information for the site. However, to date GoLive 5.0's Dynamic Link only works with Microsoft's ASP (Active Server Pages). You can now connect to and deliver content source from any ODBC-compliant database, make up the coding, and preview the results with a click of the mouse.

However, those of us using other third-party application servers such as ColdFusion or Lasso will be glad to know that third-party extensions are already being developed by these companies.

Keeping track

Simple management of hundreds of Web site pages is made easier in GoLive 5.0. Also, sites made in other Web editors can be more easily imported into GoLive. A site-file containing all the elements, even cross-platform files vital to a particular site, is created. The Site Window has been updated, giving improved viewing of a site's files



Keep an eye out

In the Site View you can set-up and save searches through your site files.

and structure. The view controller adds multiple viewing-panes to the navigation, as well as links, design tabs, and site-design windows.

GoLive no longer has to re-write the entire site-file when changes are made and saved. It also creates a back-up site-file in case of system crashes, and warns you if you use the back-up instead of the original.

Staying informed

A range of different site reports can now be created, giving you information such as file sizes, and estimated download times. Reports on creation and modified dates, errors, missing or badly formed tags, objects, fonts and colours can also be created. There's also a network-status report that gives information on your server connection, and can pick up any problems.

Adobe has also built WebDAV support (Web Distributed Authoring and Versioning standard protocol) in to

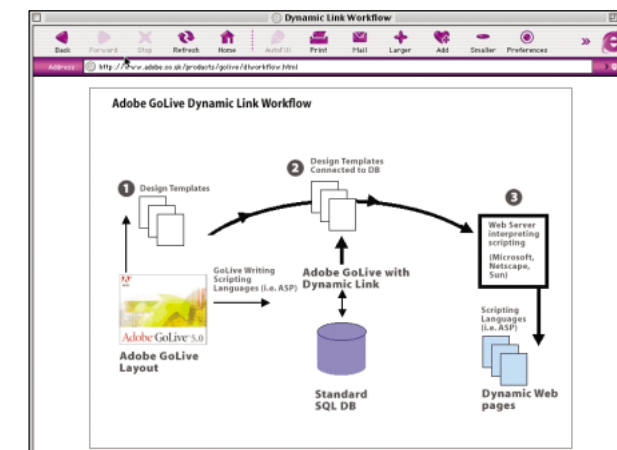
Connection code

The new Dynamic Link feature now lets you mock-up and develop your database-connectivity code in GoLive.

page 51

Tangle-free

Macworld Online's homepage is made up with ColdFusion tags. GoLive now recognizes these and ignores them.



GoLive 5.0. If a site uses a WebDAV server, draft files can be locked, ensuring pages are not over-written accidentally.

Improved support

The Web is going to contain more streaming-media content in the future. Luckily for GoLive users, it has improved the on-board Interactive Editor. Using GoLive in conjunction with Adobe LiveMotion, buttons can be animated and exported as SWF files.

Adobe has improved support for technologies such as SWF files, and Real Media G2. First introduced in GoLive 4, the Movie Editor allows QuickTime and Flash movies to be edited, all without having to leave GoLive's working environment. The improved Interactive Editor enhances the control you have over preparing streaming-QuickTime files. Adding audio, video, QuickTime or Flash elements to your Web pages should be a cinch with this feature's drag-&-drop capabilities. The Movie Viewer now has a preview and layout tab. You can add SWF files to a separate SWF track in the timeline, letting you add interactivity to your movies in GoLive. You can import Photoshop layers as individual sprites to create rollover buttons, and GoLive translates the Photoshop layers – retaining the layer name – into sprite behaviours in QuickTime. Finished work can be exported in streaming format.

Apple's WebObjects sites can be created in GoLive. Standard Vector

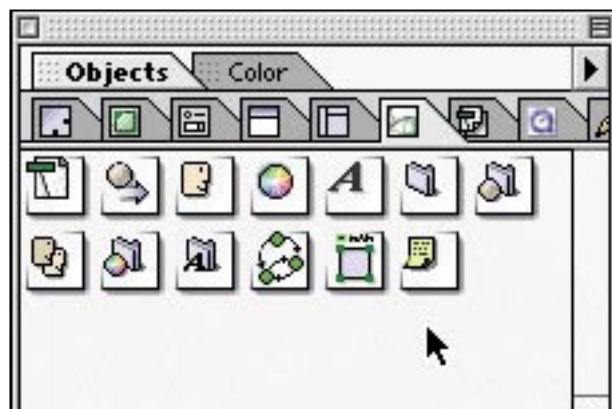
Graphics is an open-standard vector-graphics language based on XML that lets you design Web pages with high-resolution graphics, including special effects and gradients. Adobe is supporting SVG across its product line, including GoLive 5.0. The SVG viewer is a stand-alone plug-in downloadable from www.adobe.com or from the GoLive 5.0 CD installation. However, Internet Explorer 5 for Macintosh will currently display only static images in SVG format.

With ExtendScript SDK (Software Developer Kit), GoLive's functionality can be extended by third parties creating their own solutions for download. It includes a JavaScript interpreter and debugger, and lets developers add custom menus, commands, floating palettes and tabs in the object palette.

GoLive 5.0 has an integrated development-environment for JavaScript. You can also connect to shared cross-platform libraries.

The recent announcements at Seybold include partnerships with companies developing WML (Wireless Markup Language) and i-mode, such as world-leaders Nokia and Razorfish. This will enable GoLive developers to design, manage and deliver content to wireless-Web users.

Other extensions in development with third-party partners include a plug-in for creating AvantGo content, and Blue World has also announced it'll deliver a version of Lasso Studio for GoLive 5.0. See Macworld Online Daily News for updates.



Macworld's buying advice

If you already have GoLive 4.0, then upgrade now. If you've not yet decided which Web-layout tool to buy, then weigh-up both the market leaders by talking to other users of both products about your specific requirements. Also, try the free downloadable trial versions, to get a feel for which environment you prefer working in. A trial version of GoLive 5.0 will be on the November 2000 Macworld cover CD.

If you're a designer who uses Adobe products frequently, then stick with what you know. The battle of the Web-content creation tools has just got more interesting, and I'm looking forward to the next round. This is a massive program packed with great features.

Anybody already familiar with GoLive 4 will want to upgrade as soon as possible.

Gillian Thompson

Objects of desire

There are now extra options in the objects palette, including design groups and annotations.



Modem for Visors

SpringPort Modem

Manufacturer: Xircom (01256 332 552)
www.xircom.com

Pros: It's the first modem for the Handspring Visor available in the UK.

Cons: Bulky.

Minimum specs: A Handspring Visor.

Price: £100 (excluding VAT)

Star Rating: ★★★★★/8.6

The best thing about the Handspring Visor is its portability. The trouble is that, when it's away from a desktop computer, connectivity disappears. Email and the Web are both vital to people who are away from the office for any length of time. Until now, there was little you could do, except haul a PowerBook around to sync with at the hotel. Hardly the most elegant solution for such an elegant computer. Now, the SpringPort Modem from Xircom has come to the rescue.

It uses the Springboard slot on the back the Handspring Visor. It's a bit like the slot on the back of a GameBoy, and the Springboard slot has an increasing number of modules to expand the functionality of the Visor.

As with all Springboard modules, the software needed to drive it is held on the modem. When the SpringPort is plugged into the Visor, the software appears on the screen. When you pull the modem out, the software disappears.

There are five pieces of software loaded with the modem and three utilities for setting up the modem, as well as two commercial packages. MultiMail is a simple package that sends and receives email – it isn't as fully featured as Outlook Express, but it does the job well, considering the memory restrictions. You can even send and receive attachments.

When you remove the modem, your email disappears until you plug it back in, because SpringPort has 256K of memory onboard. However, there's a file-mover

application for moving the software and email to the Visor if you want to. The other Internet application is AvantGo.

This software is one of the killer-apps for the Visor. It allows you to download any Web page to read off-line. You can choose from a selection of AvantGo-formatted channels, or point AvantGo at your favourite Web-site to make it a channel.

The only drawback with the SpringPort is its size. It carries three AAA batteries to conserve the Visor power, and it adds to the bulk of the package.

Macworld's buying advice

Even considering the bulk of the SpringBoard Modem, its functionality far outweighs any drawbacks. It keeps you in contact with the world, which is bloody good for £120.

David Fanning





Cybernetically enhanced game

Deus Ex

Publisher: Aspyr www.aspyr.com

Distributor: Softline (020 8401 1234)

Pros: Absorbing; amazing graphics; can choose the path your character follows.

Cons: High system requirements; initially confusing controls.

Min specs: Mac OS 8.1 or later; Power Macintosh G3 or better; 128MB RAM; 150MB hard-disk space.

Price: £39 (including VAT)

Star Rating: ★★★★★/8.5

It's been a while since Mac gamers were given something they could really sink their teeth into. Now they have Deus Ex, the latest offering from Aspyr. You play the part of Agent JC Denton, a cybernetically-enhanced law-enforcer from UNATCO, the UN's anti-terrorist coalition. The mission: to infiltrate and expose a fiendish plot to steal supplies of an essential vaccine.

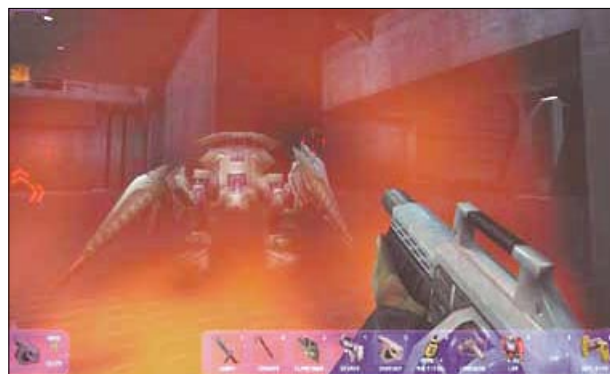
This game is huge – after an entire weekend, I'd barely scratched the surface. The initial training session teaches all the fundamentals needed – from basic movement and navigation,

to weapons. Based on this, you can choose the path Denton will take – either the Arnie approach, with guns and explosives, or Bond style, creeping around in the shadows, and picking enemies off with sniper rifles and tranquilliser darts. In addition to the standard array of weapons, there's the ability to add augmentations to Denton's body at various points during the game to supplement his physical performance.

The controls are complex at first, but become clearer after a bit of playing. A godsend was the ability to control Denton's viewing direction with the mouse, while using the keyboard to control his movements. Enemies pop-up in all directions, and this "eyes in the back of your head" tactic will save your skin on many occasions.

Before starting a new game, you must choose your character's skills (technical, weapons, strength, for instance), and appearance. Then, it's in at the deep end, with an infiltration and rescue mission. This is the best way to cut your teeth if training seems too dull.

The graphics are amazing. Even when playing in full-screen mode motion is smooth and fast. However, a beefier video-card than the standard Rage-128



found in G3 and G4 Macs is needed to get the most from the game. The system requirements are a bit of a jaw-dropper – 150MB of hard-disk space for a minimum install, and a whopping 640MB for the full install. You'll also need a minimum of 128MB RAM.

Ex bad guy

Deus Ex is tricky at first and has some hefty system requirements, but if you've got the kit and the time, it's worth the effort.

Macworld's buying advice

If you've the necessary equipment, Deus Ex will delight. In no time at all, you'll be immersed in the gaming environment, blasting away to your heart's content. One word of warning though: be prepared for many late nights.

John Steward



Consumer printer

DeskJet 930C M Series

Manufacturer: Hewlett-Packard
(08705 474 747)

Pros: Excellent quality in draft mode; double-sided printing; quiet; fast.

Cons: Photographic quality isn't the best, but it's close.

Min specs: USB-equipped Mac

Price: £169 (including VAT)

Star Rating: ★★★★★/8.9

Ever since Hewlett-Packard rejoined the Mac ink-jet market it's been trying to regain the market share it once enjoyed – before Epson ruled the roost. The new 930C is the latest attempt to do just that.

The HP 930C has an impressive resolution – 2,400-x-1,200dpi – but the printer won't ever use that resolution, unless you insist on it. The normal printing mode uses PhotoREtIII – HP's image-enhancement technology – that gets photographic results at 600-x-600dpi. It's as good as the maximum resolution, but much faster. Even in the professional publishing business, 300dpi is the maximum resolution needed. Therefore, original

images at over 600dpi are rare, and mostly pointless. HP is eager to get the message across that with PhotoREtIII and its layered ink, the results are as good as any higher resolution print.

The quality of photographic images is difficult to judge, because if you look closely there's a certain amount of banding and speckles. However, if you're close enough to see this, your nose will be touching the paper. When viewing the images from a normal distance, few or no artifacts are visible. When printed on glossy paper, the difference between the HP print and a photographic print from Boots is minor.

But, when you compare the HP print to one from the equivalent Epson there are differences. When the print is examined closely, there's a banding pattern that shows up in some areas, and there's also some graininess. The Epson print is smoother, with less graininess. The HP, though, is around £70 cheaper than the Epson Stylus Photo 870.

The 930C also has a few extra gadgets that make it a more attractive deal. While everybody likes the idea of printing beautiful, glossy pictures, real life often demands more mundane printing. For instance, black-&-white text, printing out emails, directions or invoices.

Most printers have a draft mode that allows quick-&-dirty printing, and



sometimes those prints are barely legible. The 930C has a draft mode, but it's still readable. The speed reached around 3.5 pages per minute (ppm) in our tests – though HP claims that 7ppm is possible.

For more important documents, normal or best mode slows to around one ppm – but the text is blacker than most lasers are capable of.

Macworld's buying advice

Pound for pound, you're getting more from this printer than any of the competition. It isn't the ultimate in photo quality, but it's close enough not to matter. It's a good all-round printer, and most people want text and photographs. The DeskJet 970C M Series is a top buy.

David Fanning



Web-content creation tool

Macromedia Flash 5

Publisher: Macromedia www.macromedia.com

Distributor: Computers Unlimited (020 8358 5857)

Pros: Palettes and timeline improvements; integration with QuickTime 4 and RealPlayer 8.

Cons: Backwards-compatibility issues.

Minimum specs: Mac OS 8.5 or later; 32MB RAM; 40MB disk space.

Price: Flash 5, £259; upgrade from Flash 4, £99; Flash 5/FreeHand 8 Studio, £399; upgrade from Flash 4/FreeHand 9 Studio, £99; upgrade from Flash 4 to Flash 5/FreeHand 9 bundle, £179 (all prices include VAT).

Star Rating: ★★★★★/8.7

Macromedia's Flash has established itself as the leading vector-based animation and interactive content-creation tool for the Web. This is mainly because of its file-compression ability and ease of use. Now, Macromedia has released version 5 – a much-improved and simpler version.

Last upgraded in June 1999, world wide use of this vector-based, interactive-content-creating tool has grown dramatically – as have the number of users who can view the content. Version 5 browsers now bundle the Flash Player plug-in with their installers, removing the need for extra downloads from Macromedia's Web site.

There have been many improvements in Flash 5 – such as Movie Explorer, Web-Native printing, ActionScript enhancements and Timeline tweaks.

Some of Flash 5's new features are not supported by version 4 – meaning viewers will need to download the new player from Macromedia's Web site.

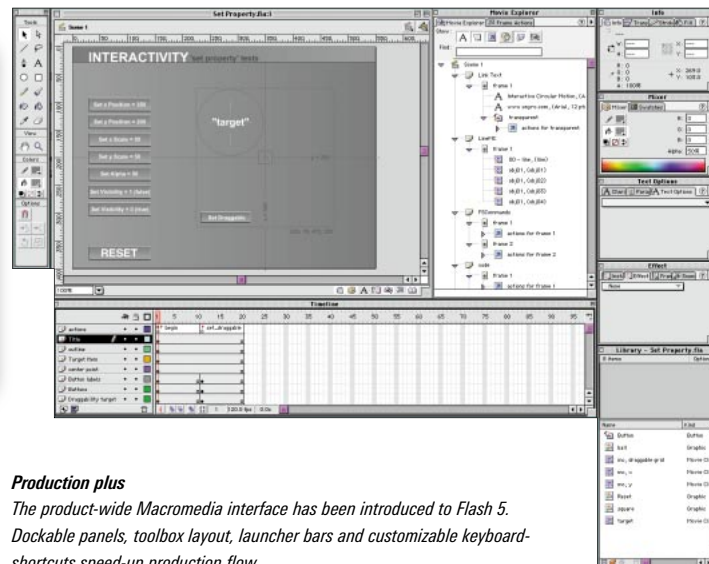
Moving backwards

Backwards compatibility may cause some problems initially. For instance, Flash 4 .fla files cannot be opened in Flash 4 once they've been opened and saved in Flash 5 – although Flash 5 movies can be exported as Flash, 2, 3 or 4 files.

One major irritation in earlier versions of Flash was the not-so-user-friendly working environment. The earlier manifestations of the user interface were so different from any other Macromedia products that users found the learning curve very steep.

Now, the revamped user-interface should make life much easier. The updated interface matches the rest of Macromedia's products – such as Fireworks and Dreamweaver. Macromedia has said that it's committed to delivering a more approachable working environment right across its suite of products.

Macromedia has also made Flash 5 less intimidating for newcomers. A launcher bar at the base of the working



Production plus

The product-wide Macromedia interface has been introduced to Flash 5.

Dockable panels, toolbox layout, launcher bars and customizable keyboard-shortcuts speed-up production flow.

window has been added, allowing one-click access to frequently used function panels – such as Show/Hide Library, Object Actions, Character, Mixer and Movie Explorer. However, unlike the completely customizable Dreamweaver functions, there appears to be no option to add your own shortcuts to this bar.

Palettes, or “panels”, as they're called in Flash 5, are available at the click of a button on the launcher bar. You can dock them together, or snap them into place. Tools such as the bezier pen behave consistently across Macromedia's products.

The Colour Selection palettes have also been revamped, as have the menu-bar structures, Launcher bar and Toolbox layout. If you prefer the Flash 4 selection style, it can be switched on in preferences, and the improved Timeline can be undocked from the “stage”. The Timeline now works in a similar way to the Director 8 timeline. You can stretch a span of keyframes by dragging out the end keyframes, or move it by dragging from the centre of the span. Individual keyframes can be selected by command-clicking on them. Colour coding also makes using the timeline more intuitive.

The Movie Explorer in Flash 5 has been added, to improve the production process by showing a structured hierarchy of objects and locations over time – this will be especially useful when working on extremely complex projects.

For more honed searching, you can filter what's seen in the window by graphics, fonts, videos, sound, bitmaps, frames or layers – or create your own customized view. You can “edit in place” and collapse and expand branches of elements.

As well as the easy-to-use vector-drawing tools, Flash 5 now caters for the

traditional illustrator, with the addition of the bezier pen. Point-to-point drawing and a sub-selection tool for manipulation of artwork created in the natural vector-based tools have been added to the Pen Tool. There are also multiple Pen Tools to enhance the Flash experience. On the text-options panel, you can select Dynamic, Static or HTML text, and the alignment of objects can be selected in another panel.

Compatibility

Following Macromedia's promise to produce a complete suite of products geared to Web-content creation, Flash now allows for the import of FreeHand files – the company's vector-based illustration tool. Symbols from the FreeHand library can be imported into Flash libraries, and FreeHand layers imported as keyframes. Flash 5 supports FreeHand 7, 8 and 9.

It's now possible to drag-&-drop, or copy-&-paste, designs from FreeHand into Flash, while maintaining effects or converting to Flash equivalents. Imported .png files from Fireworks remain editable.

Another new feature that will speed-up production processes is Shared Symbol libraries. This means that assets or graphics, for example, can be used many times in a single project, minimizing file sizes, and, therefore, download times. Also, any changes made to shared assets during production will be updated across project files.

As an increasing number of Web sites rely on dynamically-generated data pulled from server databases, the process of transferring the information to and from client-side applications to servers has become vital to Web sites. Any interactivity in Flash projects is created and controlled using ActionScript coding.

ActionScripts are needed to tell specific elements in a Flash file what to do, and when to do it. Whether it's to collect information from a backend-server source – such as a database of products – or merely to stop a movie at a certain point. This programming code is similar to JavaScript, and ActionScripts in Flash 5 have been made easier to learn thanks to a revamped ActionScript editor and a Debugger. ActionScript Syntax is now a fully fledged programming language. However, many users will question the need for yet another Web-based programming language.

There are now different levels of ActionScript in which users can author. Novice or Expert mode can be selected. You'll be able to either drag-&-drop commands into a project, or use the text editor to create code. Code can also be exported into ASCII editable-format to edit outside Flash, then re-imported.

The ActionScript-editing window has been made larger. There's also a real-time debugger so expert programmers can fix any small glitches quickly. Another useful new feature is Smart Clips, which allows you to store selections of components of projects in Flash, using ActionScripts, as separate elements. These separate Smart Clips, such as drop-down menus, navigation systems or pre-loaders, can then be shared and re-used. Just like downloading additional Behaviours for Dreamweaver, designers will be able to share their creations with others more easily. An 800-page ActionScript manual will be available from Macromedia for those wishing to dig deeper.

What You Print Is Not What You See (or WYPINWYS for short) is a clever new addition to Flash 5 – what Macromedia calls Web-Native printing. This is basically the ability to print content from a Web page in a format that's easy to read and that will fit on a piece of A4

paper. The difference between what you can view online, and what is available for printing in a comprehensive format, can be huge. No additional plug-in besides the Flash Player is necessary, as this feature can be built into the Flash Web site by the developer.

Other new features in Flash 5 include XML capabilities that enable designers to integrate with back-end systems such as databases. The use of XML for e-commerce Web sites is growing in popularity, as the benefits of up-to-the-second data become recognized. HTML text can be incorporated into Flash animations, and in this version, anti-aliased display text or HTML-rich text allow HTML files to be updated at any point.

Sound capabilities have also been improved in Flash 5. Flash's MP3-import has been enhanced, allowing high-quality sound clips to be added to buttons and animations.

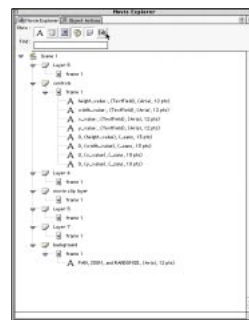
The publishing preview is more customizable and further export settings have been added. Macromedia has also included a new help function, called Macromedia Dashboard, which, when launched, will connect to a range of assistance resources on the Web.

Macworld's buying advice

Some Flash users on Macromedia's forums are concerned about the new ActionScript learning curve, and the time it will take for the Flash 5 player to be taken up by the viewing public.

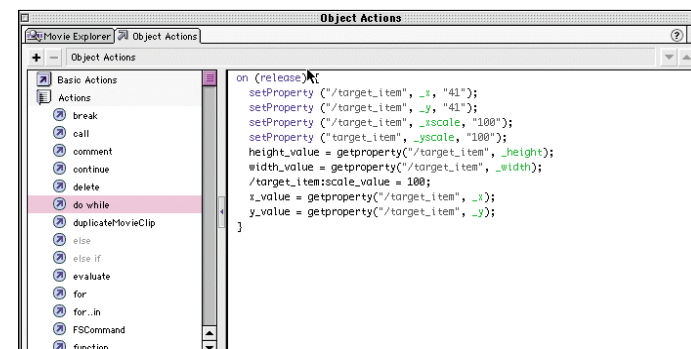
There are plenty of small changes in Flash 5, and many useful new features. The bezier drawing-tool and FreeHand import will be the biggest boon for designers already working in Flash, and, for newcomers, the revamped interface will make learning Flash easier. If you want to take advantage of the new features then Flash 5 is recommended.

Gillian Robertson



Navigation aid

Complete element-layout and structured viewing-capabilities make editing and navigating complex Flash-projects a cinch.



Easy coding

Smart clips, syntax improvements and a drag-&-drop editor make coding easier in Flash 5.



Huge storage drive

SANcube 135GB

Manufacturer: Micronet www.micronet.com
Distributor: Unannounced at press time, but available online from Micronet.

Pros: Fast; huge; shareable; looks great.

Cons: Shared volume can't be accessed by more than one user at a time.

Min specs: FireWire

Price: Two user, \$2,149 (no UK price yet).

Star Rating: ★★★★★/8.5

The SANcube is a big cube stuffed with huge hard-drives with a FireWire interface. However, more than one person can use it, so files don't need to be moved from pillar to post.

This sharing is a function of the Accelware software, designed by ATTO, for Micronet. Accelware mounts the volume, or volumes, and allows data to be shared with other users. The version of the SANcube we looked at is one of the smaller models. It has three hard-drives totalling 135GB of unformatted storage. It also has two FireWire ports, and, unlike normal drives, each port can be connected to a different Mac. Micronet has also announced a massive 450GB version for four users.

The ability to share access to a fast drive is not new-Fibre Channel has offered this for years. Unfortunately,

Fibre Channel is very expensive, and is mostly used for high-end, video-broadcast editing. The SANcube offers similar functionality at a cheaper price.

The software can configure the cube any way you like. If each drive is formatted separately, you can give private-volume access to each of the two people connected, and share the third drive. The users connect to the SANcube via 4.5-metre FireWire cords. Unfortunately, the shared drive can only be written to by one person at a time. This means you must use the software to change access privileges when copying files to other users.

Even with this time-wasting, it still cuts transfer times for big files to virtually nothing. You don't actually need to copy the file at all, just give the other user access to it. Even when you do need to write to the SANcube from an internal drive, it's lightning fast. All three drives can even be formatted as a single RAID array, which makes it even quicker. Because incoming data is spread across each drive in turn, you're unlikely to over stretch the available bandwidth. If you have a drive fast enough to trouble the SANcube – which we don't – Micronet claims transfer rates of up to 33MB per second are possible. The bigger 270GB and 450GB models use dual buses to make the theoretical maximum-transfer rate 65MB per

second. But, it's unlikely you'd achieve this speed.

The look of the SANcube adds to its appeal. It sits in a box approximately ten-inches cubed. Obviously cubes have had a renaissance since the G4 Cube was announced, but Micronet is already showing prototypes for the SANcube as early as January 2000.

The comparatively bulky SANcube dwarfs the G4 Cube, but, is beautiful compared to most other FireWire drives. There is a circle of LEDs that flash in different ways, depending on what the SANcube is doing – it's of no use, but adds to its charm.

Macworld's buying advice

The capacity of this "smaller" model is enough for almost anybody. You can fit almost two hours of digital video on here, or enough MP3s to play continuously for 100 days. If that isn't enough for you, choose the 450GB model – which will hold a year's worth of MP3. The SANcube will also speed file-transfers more than Gigabit Ethernet.

David Fanning



Digital camera for Visors

Eyemodule

Manufacturer: IDEO www.eyemodule.com
Distributor: Inmac www.inmac.co.uk, or www.handspring.com
Pros: Small; light; fun.

Cons: Poor-quality images.

Min specs: A Handspring Visor – ideally the 8MB version.

Price: £118 (excluding VAT)

Star Rating: ★★★★★/7.2

The Eyemodule is one of those items that doesn't fit neatly into any category. It's a SpringBoard product, meaning that it's designed to work with the HandSpring Visor.

Its function is photography, though you could barely call it a digital camera. The best way to describe the Eyemodule is as a gadget – where niftiness outshines any practical uses.

Digital fun

Of course, a camera that costs only £119 isn't going to amount to much if it's digital. You could buy a dozen

disposable cameras for the same price, or even a halfway decent grown-up camera. What you do get with the Eyemodule though is fun – and it'll amaze your friends.

The module slips into the SpringBoard slot on the back of the Visor. It protrudes only 15mm over the top, and adds nothing to its thickness. It's controlled by a single button, plus the software that's automatically loaded when you insert the module. Simply push the button and it captures the image. You can then elect to save or delete it.

The software allows the resolution and colour-depth of the image to be set. That's right, I said colour. When the pictures are downloaded to a computer, they can be viewed in glorious colour. The maximum resolution is a paltry 320-x-240 pixels – tiny by digital-camera standards, but fine for displaying on the Visor screen.

If the image is in colour at this resolution it takes up 187K. This may seem tiny, but with applications on the Palm OS typically occupying less than 50K, it's quite chunky. Of course, if you're taking colour pictures, you'll want to offload them to your Mac to

see them properly.

Black-&-white images of the same resolution take up only 37K, and even smaller 160-x-120-pixel images take up only 9K. That's small enough to keep on your Visor as a digital-photo album. Images of the kids, cat, wife or iMac can be carried around to thrill and inspire your co-workers and bar-room buddies.

At this point, I am racking my brains to think of a use for the Eyemodule. Maybe such low-resolution images could be used for the Web, but the colour-quality isn't that great.

Macworld's buying advice

If you like nifty gadgets, this certainly is one. And it's a head turner, as I found out when I took it down my local boozier.

David Fanning





Consumer scanners

CanoScan N1220U

Manufacturer: Canon
(08705 143 723)

Pros: High resolution; stylish.

Cons: Pricey.

Min specs: USB-equipped Mac.

Price: £175 (including VAT)

Star Rating: ★★★★★/8.3

CanoScan N656U

Manufacturer: Canon
(08705 143 723)

Pros: Cheap and stylish.

Cons: Not as cheap as the Umax.

Min specs: USB-equipped Mac.

Price: £116 (including VAT)

Star Rating: ★★★★★/8.4

CanoScan D660U

Manufacturer: Canon
(08705 143 723)

Pros: High resolution; transparency adaptor.

Cons: Pricey.

Min specs: USB-equipped Mac.

Price: £234 (including VAT)

Star Rating: ★★★★★/8.2

ScanJet 5370C

Manufacturer: Hewlett-Packard
(08705 474 747)

Pros: Four-button control; high resolution; transparency adaptor; cheap.

Cons: Bulky.

Min specs: USB-equipped Mac.

Price: £179 (including VAT)

Star Rating: ★★★★★/8.6

Astra 3450

Manufacturer: Umax
(01344 871 329)

Pros: Very cheap.

Cons: Auto-crop function doesn't work.

Min specs: USB-equipped Mac.

Price: £89 (including VAT)

Star Rating: ★★★★★/8.3

Everybody seems to have a Web site or iTools photo-album these days. If you're still using an analogue camera instead of one of those new-fangled digital models, then, a scanner is a must. They range from the cheap and cheerful at £50, to £5,000 monsters (see Scan and deliver, page 89).

If you're scanning for the Web, or even home printing, you don't need 3,000dpi resolution. To scan for a Web page, 72dpi is enough – anything more is pointless. Even ink-jet printers will slow to a crawl when faced with a file over 600dpi. This makes the scanners featured here ideal for home use, and some can even come in handy for real graphics work.

Ease of use is the key to a good home scanner. The pro scanners featured in this issue require a PhD in colour-mumbojumbology, so are not much good for the average user. Fortunately, I'm an expert in all kinds of mumbo jumbo. Most consumer scanners now have single-button operation. Using buttons on the front of the scanners tested, you can scan directly to a printer or a selection of other output options. This makes these scanners suitable for even the most ardent technophobe.

Resolution range

The scanners we looked at have either 600 or 1,200dpi resolution. At 1,200dpi, you can enlarge originals for printing.

Canon has updated the CanoScan range. The sleek ultra-thin styling has changed slightly, but they're still the most attractive scanners in town. Functionally, the 600dpi N656U remains the same, but added to the range is the 1,200dpi N1220U and a 1,200dpi model that includes a basic transparency adaptor. All the models share a single button on the front, which opens the CanoScan Toolbox.

From the Toolbox you can, with a single click, scan directly to a printer, fax-machine or graphics package. This is the kind of usability that has become standard on most entry-level scanners.

There are also three vacant buttons that can be assigned to whichever application you want, such as the OCR (Optical Character Recognition)

package supplied with the scanners. Unfortunately, this function only works when drag-&-dropping files already scanned.

The CanoScan D660U is bulkier than the N656U and N1220U. This is to house the transparency unit, which can be used to scan slides and other transparencies. It sports 1,200dpi resolution and 42-bit colour sampling. Even though it lacks the high-end features of the pro-scanners featured on page 89, it would be an extremely handy thing for any designer to have. You wouldn't use it for most magazine work, but for newsletters or mock-ups it's fine. At £234, compared to around £4,000 for a pro scanner, it measures up very well.

The other two Canon models look practically identical (see Spot the difference, below), and the only real difference is that the N656U has a resolution of 600dpi, and the N1220U can manage 1,200dpi. If you don't care to enlarge your scans too much, then the N656U is adequate. You're undoubtedly paying a little over the odds for the design, but that – unfortunately – is getting normal in the Mac world.

Multi-button boon

The new ScanJet 5370C (above), from Hewlett-Packard, makes scanning even simpler than the single-button operation of the Canon range. The four buttons on the front of the 5370C means you can scan to print, fax, or a graphics apps with a single touch of the button. It makes scanning as easy as photocopying. HP uses a relatively unknown OCR package called ReadIris, but it's impressive and can read many languages.

The ScanJet has a transparency adaptor, though it's not built into the

hood as in the other models. It consists of a small lightbox that sits over the scanning plate. It isn't as convenient as having the adaptor in the hood, but the results were excellent.

The last scanner tested was the Umax Astra 3450 – an amazingly cheap scanner, considering it includes a transparency adaptor. At just £89, it offers outstanding value for money. However, it has its quirks: it uses a four-button control for scanning and relies on an auto-cropping function to scan just the object rather than the whole scanning bed. Unfortunately, the transparency adaptor disrupts this process and the scanner scans it as well as the artwork. This isn't a serious problem, but annoying none the less. I'm not sure a transparency adaptor is of any use on a scanner only capable of 600dpi resolution.

Macworld's buying advice

All the scanners tested do an excellent job of scanning reflective artwork. The models capable of transparencies did a reasonable job, but they're no match for the professional models. At least 1,200dpi is needed when scanning trannies, so the Umax model is not acceptable for slides – however, £89 is difficult to argue with. If you don't want to scan transparencies, the two cheaper Canon models offer a stylish solution to the problem. The ultimate scanner, though, has to be the HP ScanJet 5370C. It combines excellent software, ease of use and a transparency adaptor. The only thing going against it is its bulk.

David Fanning



Spot the difference

The CanoScan N656U and CanoScan N1220U (right) may look identical, but the latter has twice the resolution – although no blue button.



Fantasy role-playing

Diablo II

Publisher: Blizzard www.blizzard.com
Distributor: Softline
(01372 726 333)

Pros: Wonderful graphics; well-designed; orcs; addictive.

Cons: Sluggish; can be dull; repetitive; orcs.

Min specs: Mac OS 8.1 or later; Power Mac G3; 64MB RAM; 650MB hard-disk space.

Price: £39 (including VAT)

Star Rating: ★★☆☆/6.4

Orcs, swords, dragons, more orcs, magical rings, wizards, flaming arrows, even more orcs – yes indeed, a role-player's life is a simple one. If it's green and has more scales than you'd find at the veg counter, kill it. If it's a large, mystical horse with a long horn and wings, probably best to rustle up a fireball and kill that too. And, true to the simple sword and sorcery way of life, Diablo II doesn't stray far from that path.

Set in a highly detailed world, the action sees a lone fighter, wizard, sorceress or amazon wade through four acts of slaughter, magic, spell-casting,

shining armour, and strange old men who want their wands polishing.

Diablo II is billed as a role-playing game (RPG) that takes the genre to another level, and, at first glance, it certainly casts a level-three spell over most players.

You're given quests that involve you wandering the landscape and knocking off numerous zombies, mutant chickens and overgrown goblins. Along the way, you pick up weapons, gold to buy supplies and magical potions to help with your quest. Better armour, magical threads and a level-based system mean you can transform your baby-arian into a true barbarian.

When Diablo II was released for the Windows crowd of Puff The Magic Dragon slayers, it was raved about and hailed as a "very important game". Yet after a while, the whole experience is strangely dull. There are no puzzles, for example, so quests quickly descend into the repetitive slaughtering of wave after wave of monsters. Simply click on a baddie from the fifth dimension several times, watch a cutesy animation as it dies, pick up some gold, then hit another monster. Repeat until bored. Diablo II is more akin to a prettified version of

the '80s-classic Gauntlet, than anything deeper. However, it is oddly satisfying. Tearing around beautiful landscapes, while bashing seven bells out of the bad guys is somewhat rewarding. And the later levels quickly outpace the first act in terms of design and creative input, transforming you to a truly believable world. Well, if you believe in hob-goblins.

The added depth does surface in the form of upgrades: better armour, longer sword, shiner helmet and the way your character can be assigned skill points to make them a better fighter.

However, the fact that each task inevitably involves clicking ever more frantically on slightly large monsters can't hide the fact this is no true RPG in the style of Realmz or Dungeons & Dragons. Add to the fact this is sluggish on a 233MHz iMac, and some of the shine is tarnished.

Macworld's buying advice

Diablo II is a fun, dragon-bashing game. It's simple, addictive and glorious to look at. But, if you're looking for a true, digital version of a RPG that needs a 20-sided dice and fat rule book you won't find it here.

Matthew "Middle Earth" Bath



Choose your weapon

Diablo II doesn't live up to its billing, with little puzzle-solving.



Virtual real-life

The Sims

Publisher: Aspyr www.aspyr.com
Distributor: Softline
(01372 726 333)

Pros: Multi-layered; incredible animation; highly addictive; downloadable add-ons.

Cons: Can get dull; odd save system.

Min specs: Power Mac G3 233MHz; Mac OS 8.1 or later; 350MB hard-disk space; 64MB RAM; 8x CD-ROM.

Price: £39.99 (including VAT)

Star Rating: ★★★★★/9.1

Real life is a rich, wondrous tapestry of experience, unbounded joy and rapturous delight – just witness love, pizza, romance, laughter and friends. Sometimes, though, it's a bit ropy. Own goals, bad timing, and yesterday's pizza all seek to unpick life's tapestry.

Now imagine all that squeezed into a game – because that's exactly what The Sims offers, only in digital form. The Sims is a God-game, much like its predecessor SimCity, only taken to a new level. Gone is the micro-management of city blocks – instead you have to micromanage loo blocks, find a job, decorate your house and meet a spouse.

The Sims is like real life. Set in a

small neighbourhood, you purchase plots of land, construct your Sim's abode, stock it with furniture, swirly patterned wallpaper and electrical goods and then create a Sim, or Sim family, to move in. And birthing your own Sim isn't a case of splicing together a few lose strands of DNA – you have to create the body and face of the Sim (much like the game Guess Who?), including clothing, glasses and facial features, and then attribute characteristics.

By dipping into a finite set of personality points, you can assign different traits, such as how playful your Sim is, or how tidy. The more points you give, the more anally retentive your Sim gets – don't give it any points, and it'll be licking last month's lasagne off the floor.

Dolls for adults

The Sims is more than a Tamagotchi take-off, though, giving supreme control over every aspect of their day-to-day life. Tell it to take a shower, fix a meal, wash up, feed the fish, switch on the television or invite friends round for a pool party. And, if you decide that your Sim should have a life as active as a slug in a salt pot and less friends than a hyperactive traffic warden, you can – because The Sims is like that. You get to interact with them: satisfy their needs, train them in new skills – such as practising speaking in the

bathroom mirror to build self-confidence – and buy more gadgets for the house.

Graphically, The Sims is excellent, chugging smoothly along on a 233MHz iMac – those expecting a repeat of the disaster that was SimCity 3000 can sleep easy. The animation – presented in isometric 3D – is both detailed and charming. Gasp as your Sim stacks dishes in the dishwasher, puts food in the microwave – and, yes, the light does come on – reads the newspaper or holds conversations with neighbours.

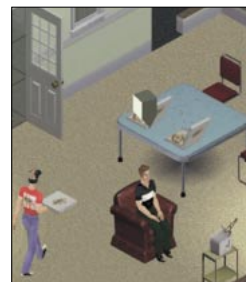
Even cooler is the neat pixelated effect you get when the Sim strips off for a shower, or to use the toilet. And the graphical home-comforts are more than backed-up by an aural treat that perfectly sets the scene.

It's also intelligent, and more often than not you'll find yourself working hard to ensure your Sim is fed, watered, bathed and not lonely. The sight of a Sim wetting himself is tough to witness.

Macworld's buying advice

The Sims is not without flaws. The save system is odd: it simply saves when you quit, and to restore the neighbourhood you have to reinstall part of the game from the CD. And while it is utterly fascinating, it does get tedious. Much like real life, really.

Matthew Bath



Sim-pull

Every detail of life is in The Sims, from the delivery pizza, to the mate your Sim ends up with – or divorces.



Audio editors

Speed

Publisher: Wave Mechanics
www.wavemechanics.com

Distributor: Unity Audio
(01440 785 843)

Pros: Excellent preview mode; useful graphical mode.

Cons: No preserve formants option; only runs on Mac-based, Pro Tools Audio Suite-compatible software.

Min specs: Digidesign Pro Tools; AudioSuite plug-in standard.

Price: £365 (excluding VAT)

Star Rating: ★★★★★/8.5

Time Factory

Publisher: Prosoniq/Steinberg
www.prosoniq.com

Distributor: Arbiter
(020 8970 1909)

Pros: Excellent preview mode; useful graphical mode.

Cons: No preserve-formants option; only runs on Mac-based Pro Tools Audio Suite-compatible software.

Min specs: Apple Sound Manager 3.2 or higher; 120MHz PowerPC 603e processor running at 120MHz; Mac OS 8 or higher.

Price: £330 (excluding VAT)

Star Rating: ★★★★★/7.5

Speed is an AudioSuite plug-in that changes the pitch or the tempo of audio files from within Digidesign Pro Tools.

Just select an audio file in Pro Tools' Edit window and choose Speed from the Audio Suite menu. The Simple Control window appears with two rotary buttons: Speed, which controls tempo; and Pitch, which, yes, controls pitch.

Two buttons – Preview and Process – let you preview then process the selected audio and save the results to disk. Various modes are available in the Calculator Panel, such as Key, Tempo, or Length.

Alternatively, Speed's unique Graphical Control Panel displays the audio waveform with two horizontal-graph lines that can shift pitch or tempo. You can use these to correct pitching or timing, or to create accelerandos and decelerandos within tracks.

Speed is great with drum loops. I changed the tempo of a drum pattern all the way from 50 per cent to 200 per cent and it sounded perfect.

Speed is not as good with vocals – pitchshifting moves the vocals formants as well. When I took Carol King's recording of *It's Too Late* and shifted it by two semitones, I could hear a sort of warbling- sound on the voice and saxophone. But, for trying ideas out in Pro Tools, with any kind of audio material, Speed is the ideal tool to use.



Factory settings

Time Factory allows the tempo to be changed without effecting the pitch, or vice-versa.

Time Factory

Time Factory is stand-alone software for time-stretching and pitch-shifting final mixes, or other sensitive audio material.

When launching Time Factory, you're presented with the Batch List window where you can open a single mono-audio file, split-stereo files, or multiple files.

Each file appears as a horizontal bar, divided into columns displaying edit parameters. You can alter pitch in semitones or cents, or alter length in seconds or percentages. Also the speed can be changed in beats per minute (BPM). Checkboxes for each file let you choose either Preserve Formants or Transcribe Mode – a unique feature that creates a file which plays back at half speed, while keeping the pitch the same. This makes it much easier to transcribe the notes by ear. Formants are characteristic resonant-frequencies of the human voice or of particular musical instruments. They stay the

same even when you sing or play different notes in real life. Time Factory lets you emulate this behaviour when you pitchshift – leaving formant frequencies untouched.

I took a 100BPM, four-bar drum pattern and changed the BPM down to 50 and then up to 200. The results were not quite as good as those with Speed – a sort of "thwacking" sound appeared on the snare at 50 per cent, while at 200 per cent the congas sounded "slappier". When I pitchshifted Carol King's recording of *It's Too Late*, results were comparable with those from Speed. But when I pitchshifted a solo voice and a solo guitar, each time choosing the Preserve Formants option, the results were faultless.

Macworld's buying advice

If you need to pitchshift voices or instruments with prominent formants, Time Factory is the package to use – but Speed is a better choice for time-stretching drums, and is easier to use.

Mike Collins



Budget music studio

UA-30

Publisher: Roland ED www.edirol.com/europe

Distributor: Edirol (0845 117 2001)

Pros: Analogue and digital ins and outs; easy to use; no setting up.

Cons: Expensive; reliability issue with serious audio-programs.

Minimum specs: Mac OS 9.0.4.

Price: £169 (excluding VAT)

Star Rating: ★★★★★/5.5

Apple's G4 Cube and new iMacs don't have analogue-audio ports. Pros will consider the FireWire route, but the rest of us will need USB. Roland has a series of USB-audio devices but, at the time of writing, no Mac drivers to support them. Only the basic UA-30 works with Macs, courtesy of Mac OS 9.0.4's built-in USB driver.

Input is via two phono line-ins with an additional guitar/mic input, while output is from a pair of phono line-outs.

Does it work? Kind of. The Mac's Sound Manager recognizes the interface and allows it to be selected from the Sound control panel. It works with basic record/playback programs, such as SoundJam MP. However, digital-audio programs, such as Cubase, need an ASIO (audio stream input output) driver.

Macworld's buying advice

At just under £200, the UA-30 is pricey. Given the problems with serious audio programs, it's better to use an older Mac.

Vic Lennard



Synthesizer emulator

PPG Wave 2.V

Publisher: Native Instruments www.native-instruments.com

Distributor: Arbiter (020 8970 1909)

Pros: Up to eight units can be used at the same time.

Cons: Latency can be a problem.

Minimum specs: Mac OS 9.0.4.

Price: £149 (including VAT)

Star Rating: ★★★★★/9.0

The PPG Wave 2.V is a software version of the legendary PPG Wave 2.3 synthesizer, which was released in 1983. PPG Wave 2.V is a VST Instrument – which means it runs within Cubase VST. Its audio outputs appear directly in the VST Channel mixer – where additional effects can be applied.

Cubase MIDI tracks are routed into the input of the 2.V – or you can route your MIDI keyboard through Cubase to play it live. The results are close to the original, and even include a simulation of its "aliasing" noise.

The original basic sequencer has been omitted – as Cubase is so much more powerful – but the original Arpeggiator is included.

Macworld's buying advice

The software comes with the original Wave 2.3 patches, plus several sets of newly-programmed patches – many of which sound better than the originals. The verdict? Buy one now.

Mike Collins



3D-video creator

Boris Red 1.5

Publisher: Boris FX www.borissfx.com

Distributor: Polar Graphics (020 8868 2479)

Pros: Elegant interface; versatile; excellent documentation; superb rendering-quality.

Cons: Expensive.

Min specs: Mac OS 8.1 or later; 120MB RAM.

Price: £1,295 (excluding VAT)

Star Rating: ★★★★★7.9

Most video producers live in editing applications such as Adobe Premiere or Apple's Final Cut Pro. These are great programs, but they lack the rich palette of motion-graphics effects found in Adobe After Effects. As a result, many producers turn to After Effects to produce footage, and then import it into their editing projects – this is hardly efficient.

Boris FX's Boris Red 1.5 is the cure for After Effects-envy. The program lets you create gorgeous 3D motion-graphics, titles and transitions directly within an editing program. Boris Red works in Premiere and After Effects, Final Cut Pro, and several Avid and Media 100 systems.

At £1,295, Boris Red costs more than many of the programs it plugs-in to. It's worth it. Indeed, Boris Red out-effects After Effects in many areas.

Boris Red's many talents fall into several overlapping categories: motion graphics – spinning, rotating, and stretching video-clips, complete with motion blur – 3D effects and transitions – page peels, rotating cubes, and video clips mapped onto shapes. It also supports text and titling – with 2D or 3D text – keying, and filters – for adding spotlight and lighting effects, exploding particle effects, and more.

When you invoke Boris Red, it takes over the screen, replacing your editor's menus with its own. Boris Red's interface loosely resembles After Effects – a timeline window visually depicts your project's flow and lets you set keyframes, which specify effect parameters at a given point in time.

You position and size clips in the Composite window, which also displays a preview of your project. The Controls window is packed with dials and sliders for specifying everything from scaling to rotation speed, to motion blur.

Boris Red does many things well, but it excels at Z-space control – the ability to determine what happens when elements overlap in 3D space. It's easy to create dramatic 3D-effects in which elements intersect or travel through one another – great for animated logos.

Text is often an afterthought in effects packages, but it's a star player in Boris Red. A Microsoft Word-like text-editor window lets you create and

animate 2D or 3D text. You can apply textures, gradients, static images, and even movie clips to 3D-text characters. And you can animate text to create everything from crawling credits to flying logos.

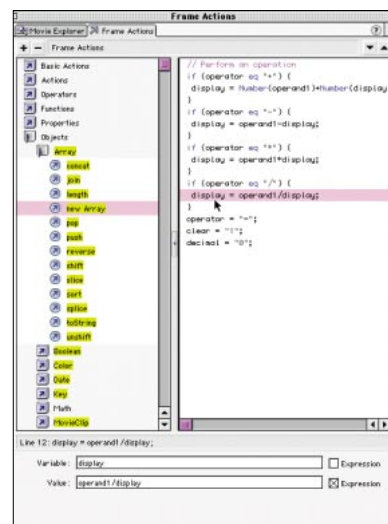
Boris Red includes a stand-alone program, Boris Red KeyFramer, that provides access to all of Boris Red's features, but lacks rendering abilities.

You can use KeyFramer to build motion-graphics projects that you'll later render in an editing application. Better yet, the Boris Red licence agreement lets you freely copy KeyFramer to all your Macs. On top of all this, Boris Red lets you use many popular After Effects plug-ins within editing applications that wouldn't otherwise support them.

Macworld's buying advice

Boris Red is the most capable video-effects plug-in available. There's no better way to add motion graphics and 3D titling to a video-editing program.

Jim Heid



Boris Dancing

Boris Red 1.5's effects-generating prowess is wrapped up in an elegantly designed interface – similar to that of Adobe After Effects.



Guide to digital video

The Digital Filmmaking Handbook

Publisher: Charles River Media www.charlesriver.com

Distributor: www.amazon.co.uk, or www.eurozonebooks.com

Pros: It covers every aspect of DV film-making.

Cons: It's slightly US-centric.

Price: £30-£37 (depending on exchange rate)

Star Rating: ★★★★★8.6

The advent of iMovie, Final Cut Pro and the FireWire-equipped Macs has put many people in a position to make home movies. Even if you've never had the desire to make a movie, if the equipment is sitting there, it's silly not to use it. Making movies is addictive – whether it's a simple iMovie or a homemade pop-video – and many people will want to take the next step. This book goes through everything

involved in making a digital-video movie. It's a scary amount of information, but it might just make you the next Spielberg.

This book is pitched at the mid- to high-end video-editing market. It takes you from the storyboard and equipment, through to distribution for the finished product. Every detail of the film-making process is included.

Scratch

If you're starting from scratch, the first thing to do is buy some equipment. Chapter six goes into great detail on the difference between single-chip and three-chip cameras, and how to evaluate image quality. It will arm you with enough information to stride confidently into a camera shop and not be bamboozled by jargon.

The book isn't entirely devoted to DV the Macintosh way, as PC-use is covered too. However, because one of the authors is Ben Long, who writes for our US sister-magazine the Mac forms a prominent element of the book.

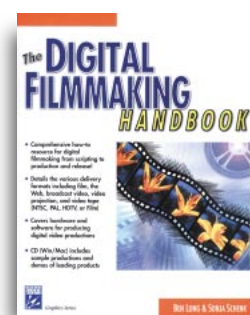
It's only fair to point out that the book US-centric, and much of the useful contact information is for US residents

only. However, if readers from the UK, or anywhere else, want to find out about more local issues there is a Web site (www.dvhandbook.com) to partner the book. Here, you'll find not just excerpts from the book, but forums, where you can discuss the finer points of DV film-making. There are a few experts – including the scriptwriter of *The Ewok Adventure* – there to moderate the discussions, though because the book is new, there aren't many hot topics right now.

Macworld's buying advice.

Even if you already have experience as a camera operator, sound engineer or best boy, this book will give you an insight onto how the rest of the production process works. If you want to be your own crew and make a movie single-handed, the book has all the info needed too. Anybody who isn't already a director can't fail to learn something from this book – it's an incredibly thorough and helpful read, and a must-have for anybody involved in DV movie-production.

David Fanning



All you need

The Digital Film Making Handbook covers everything from hardware to script writing.



Hard-disk cleaner

Chaos Master 1.0.1

Publisher: Radialogic
www.radialogic.com

Distributor: AM Micro
(01392 426 473)

Pros: Good suite of utilities; clean user-interface; VersionTracker tie-up; decent PDF manual.

Cons: Must be handled with care.

Min specs: Mac OS 8.1; Power Macintosh.

Price: \$59.95 (download from Web site); \$29.95 upgrade from Yank Pro (no UK price yet).

Star Rating: ★★★★★/8.8

No matter how much care you take, it's impossible to avoid data build-up. Preferences for, and aliases to, long-deleted applications, empty folders, corrupted files – you'd be amazed how much disk space you could recover if you got rid of all unnecessary items. Enter Chaos Master.

You may recall Yank Pro, a shareware program from Maui Software – well Radialogic has bought it. Consequently, Chaos Master is the ongoing development of Yank Pro – hence the upgrade offer.

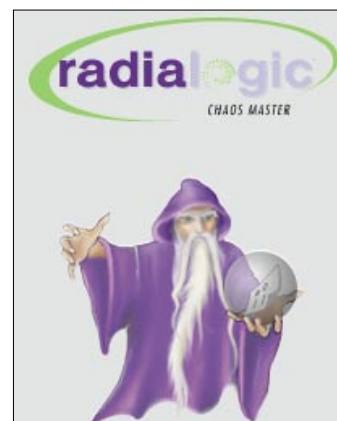
Chaos Master offers 14 features within the one package. Best of all, its Wizard analyses individual volumes – subject to you deciding whether you want to save space, find lost files or check for corrupted files – and takes you through the clean-up procedure as a series of tasks. Individual items can be examined and moved to the trash from each of these, with the Wizard giving suitable advice. Task 1 allows you to delete unwanted help files – useful, as these can exist either in the System Extensions folder or loose elsewhere. Task 2 looks for duplicate applications – time to get rid of those 58 copies of SimpleText. Empty files and folders are the targets for Tasks 3 and 4 respectively, and cache files are brought to your attention via Task 5. One of the real heavyweights is Task 6: duplicate files. A scan of one partition found 1,058 duplicates, although many of these were the same filters in the

Photoshop Plug-ins folder and Illustrator's Photoshop Effects folder. Task 7 finds compressed files, while Task 8 looks for orphaned text files – those whose file creator doesn't exist on your computer. Extreme care is required here. For instance, it brings up all the printer descriptions from the System Extensions, many files from Adobe's Application Support folder and standard .htm files. It will also show old items that new applications can still use, such as Illustrator 88 files. In other words, no artificial intelligence is applied to search results – all items that match the search criteria are listed. Tasks 9 and 10 handle orphaned aliases and preferences, while Task 11 performs basic tests on files.

Chaos Master's Advanced section allows you to adjust the criteria for a number of searches, such as specifying the type of compressed file or the application that files should be remapped to. It also has a fat application "slimmer".

The other two features each get their own section. By linking with versiontracker.com, Chaos Master examines all your applications, advises whether they need updating and then takes you to the relevant page on VersionTracker's Web site. Excellent.

Finally, Chaos Master offers what the Mac OS should have as standard: an uninstaller. While not as simple as an application's own uninstaller, should one exist, it's still useable.



What's new?

Discover whether any of your applications need updating through Chaos Master's link with versiontracker.com.

Macworld's buying advice

What is most impressive about Chaos Master is the clear manner in which it carries out its tasks. It's certainly more useable than Spring Cleaning, and the tie-up with VersionTracker is useful. If there is a downside, it's the lack of advice on the searches' as noted above. For example, you shouldn't be advised to delete the System's Favourites folder just because it's empty – surely?

That said, if you understand your Mac and want to keep it in good running order, buy Chaos Master.

Vic Lennard



Legacy connection

PowerDomain SlimSCSI 1480

Publisher: Adaptec
(01276 854 500)
www.adaptec.com

Pros: Fast access to SCSI peripherals; simple to use; hot-swappable.

Cons: Only mini D-50 cable in the box; no adaptor supplied for slower SCSI devices.

Min specs: Mac OS 8.51 or later (newer PowerBooks require 9.04); PowerBook with PC-card slot (cardbus-capable).

Price: £120 (including VAT); additional cables £35 plus VAT.

Star Rating: ★★★★★/8.2

Over the past few years SCSI has disappeared from new Macs, to be replaced with USB and Firewire.

Now, PowerBook users are left with two choices for connecting SCSI: USB-to-SCSI adaptors are available, but have slow connection-speeds and varying levels of compatibility. Adaptec has provided a second choice with the PowerDomain SlimSCSI 1480, which offers Ultra SCSI speed and full compatibility with SCSI devices.

The SlimSCSI 1480 is a PC-card device, which is basically a scaled-down PCI card for portable computers. It connects to SCSI devices via a 45cm cable. This cable is a SCSI-2 cable that has 50 pins in a mini-D connector, and supports 20Mbytes (Mb) per second transfer.

It makes sense to supply this cable in the box, as it's the maximum speed supported by the card, but it's a pity that there is no adaptor supplied for slower SCSI devices.

The adaptors are £20-25 each, which is a considerable expense. Supplying the 50-pin micro-D-to-25-pin D-type adaptor would be a positive step. Adaptec already

supply this adaptor with the cheaper USBXchange.

The SlimSCSI 1480 will support most legacy kits, as long as you have the adaptor. Most devices you'll have used with the supplied SCSI port on your old Macintosh will be able to connect to this card. The SlimSCSI 1480 will also run up to seven SCSI-1 devices at 10Mb per second, rather than the 5MBps on an old Mac's external port.

If you can connect a device using the mini-D 50 pin SCSI-2 cables then you'll be able to connect three devices at the 20MBps of Ultra SCSI. This is a substantial speed improvement over USB or normal SCSI, and is ideal for running SCSI disk-arrays for video editing. A PowerBook user might have a FireWire drive for working in the field and a larger SCSI array for editing in the office.

We tested this card with a variety of hard drives, a scanner and a Zip drive. All work flawlessly and the Zip drive and scanner had a noticeable speed increase, compared to standard external-SCSI. Newer 2000 PowerBooks will need the



1.1 driver and an update to Mac OS 9.04, but once this is done the software works very well. The SCSIprobe control panel, which allows you to see what is connected to the machine, is supplied with the card.

Hot-plugging is possible – but not recommended by *Macworld* – with the SlimSCSI card, you can eject the PC card and power-down the SCSI chain, add a device and then power up the chain and reconnect the card, all without rebooting.

Macworld's buying advice

This card will be a real benefit to people who have expensive SCSI devices, such as high-end scanners or slide scanners. It will also be useful for external hard-drives, or CD-R/RW for data-access and backup. It's fast, easy to use and reliable. If you have a PowerBook and need a quick SCSI solution, it's obvious choice.

Gavin Bell



DTP-server

FullPress

Publisher: Xinet www.xinet.com

Distributor: Turning Point
(020 7837 2840)
www.t-point.co.uk

Pros: Speeds-up printing and layout; improves XPress previews.

Cons: Requires Mac OS X Server; installation costs.

Min specs: Mac OS X Server.

Price: Four-user version, £3,995; six-user, £4,895; ten-user, £6,250; 16-user, £7,895; 32-user, £9,895 (all prices exclude VAT).

Star Rating: ★★★★★/8.7

WebNative

Publisher: Xinet www.xinet.com

Distributor: Turning Point
(020 7837 2840)
www.t-point.co.uk

Pros: Provides access to images 24 hours a day from anywhere in the world.

Cons: It's expensive.

Min specs: Mac OS X Server.

Price: Plug-in for FullPress, £8,500; Stand-alone version £9,895 (all prices exclude VAT).

Star Rating: ★★★★★/8.9

If you're unfamiliar with OPI servers, FullPress may be confusing. It takes high-resolution images and makes them in to low-res. The reason for doing this is because, if you're working in XPress, placing a 1MB file is a lot quicker than placing a 60MB file. Then, when you collect to output, or print on an image setter or colour laser, the images are replaced with the high-res versions – so there's no need to stuff your hard drive full of images.

However, that's how normal OPI servers work. FullPress is a little different. The usual way of managing big and small documents is via a live folder in which high-res documents are saved, and a low-res folder in which the small files are placed by the server. It isn't difficult to get confused. Xinet has made the process simpler and quicker than most Mac OPI software – by using Mac OS X Server.

Volume trickery

The software creates two different volumes, rather than different folders. At least, that's how it seems – but actually, something sneakier is going on. The OS X Server is presenting two volumes, but there is really only one, but with different access privileges. The files created by FullPress, when a scan or image is copied to the volume, contain both the high-res and the low-res images in one file. You can restrict access to the high-res volume for people in the layout department, for example, as they need only the low-res images. When the

images to print, FullPress takes over and uses the high-res part of the file.

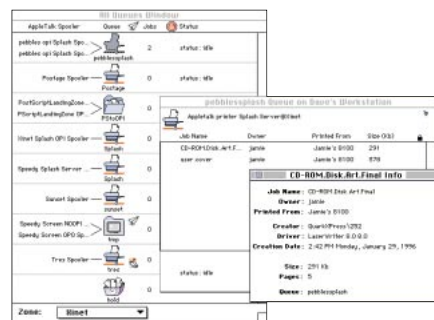
Managing folders and files is easy with FullPress, because both resolutions are in the same file. If you delete the high-res one, the low-res version goes too. If you put items in job folders, the low-res images mirror the big files. Another plus is the fact that the XPress preview is magically sharp, instead of a fuzz of blocks.

Macworld's buying advice

There are overheads incurred by using FullPress, though. For a start, the price will shock small businesses, and, when you add the price of OS X Server and the recommended half-day installation, it becomes an extremely expensive set-up. You'll need to calculate carefully how much time it will save, and how much money that represents. But it's cheaper than buying more machines because so many others are tied-up printing.

WebNative

If you've the luxury of FullPress, then WebNative can improve your work life even further. It allows you to offer access to the low-resolution images via the Internet. If your printer or pre-press shop has a FullPress and WebNative set up, then when you send transparencies for high-resolution scanning, they will



XPress preview

Not only does FullPress save time, it will also improve the picture preview in in QuarkXPress – at a price.

put the resulting images on the server. The server then gives you access, from your studio, to the low-res images. When the document is finished, it's sent to the company, where FullPress substitutes the high-res files.

This opens up a whole range of uses for WebNative. There's no more waiting for ISDN or Jaz disks, as the images go onto a secure Web site as soon as they're scanned. Pictures can be accessed from the office, home, or even overseas.

The whole package isn't cheap, as the plug-in costs £8,500, and a stand-alone version £9,895. However, the convenience for the customer is a business boon.

Macworld's buying advice

If a company can afford this software, it should consider it. Whether it will pay for itself depends on the amount of business it can generate.

David Fanning



Mind-exploring title

Secrets of the Mind

Publisher: Montparnasse
www.montparnasse.net

Distributor: Interactive Ideas
(020 8805 1000)

Pros: Covers a lot of ground; informative; good value.

Cons: Not enough interactivity; patchy audio quality; volume control doesn't work.

Min specs: Mac OS 7.1; CD-ROM drive; 12MB RAM

Price: £19 (including VAT)

Star Rating: ★★★★★/6.9

Once had a dream that I'd turned into a TIFF – and that whenever I wanted to eat or go to the toilet, I had to do so by transporting myself via an XPress dialogue box. I was hoping Secrets of the Mind might throw some light on this.

But trawling through this two-CD release, was a dream-like experience in itself – it's like being trapped inside an episode of *Horizon*, from which you emerge coated with chalk dust and spattered with the spittle of corduroy-clad boffins. Secrets of the Mind is logical enough, which is the very least to be expected from a title exploring the inner cogs of thought. It covers four categories: Learning and Memory; Conscienteness and Perception; Human Intelligence; and Brain Building.

It does so via a picture-based map, in which the above sections are broken down into 20 constituent subjects.

Clicking on any of these 20 images takes you into that subject, which is further broken down into sub-categories. Typical of this is The Mind's Eye, whose

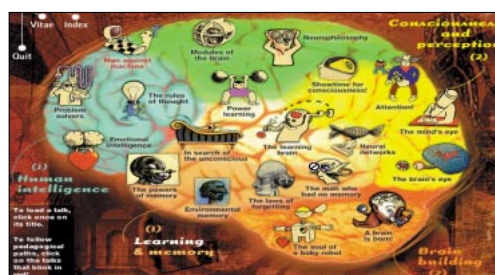
sub-headings includes Retinoptic Images.

It's the delivery of the information that lets this title down. Montparnasse has collared 11 of the world's leading experts on psychology and neuroscience to guide us through the mind.

To their credit, this assortment of profs and docs make often-complicated topics accessible and interesting. Some of the more subjective topics – such as Free Will – have a section in which the opinions of all 11 eggheads are available.

One drawback is the poor audio-quality: where one contributor booms, another whispers. There's a volume control, but this didn't work.

As well as the talking heads, Secrets of the Mind uses interactive experiments,



Thanks for the memory

Sub-topics in Secrets of the Mind are illustrated by talking-head lectures, given by academics, and a series of surreal images.

through which you can test things such as long-term memory. For the amount of ground these CDs cover, there wasn't enough of this to keep me interested.

Macworld's buying advice

Unless you're committed to studying the areas covered by this release, then I fear the dry, classroom-like delivery will leave you in need of a brisk walk.

Sean Ashcroft



- 1 : Photoshop 6.0 preview.
- 2 : The ultimate Photoshop Mac.
- 3 : Gigabit Ethernet

Photoshop power user

The premier image-editing title is more powerful than ever.

Adobe Photoshop is the pre-eminent image-editing program for graphic designers and almost anyone who has to deal with pictures in their professional, digital life. To many, it is more important to them than any other program – indeed, some users rightly see themselves more as Photoshop users than Mac heads. Adobe is just about to release version 6.0 of this key application, and *Macworld* has previewed the latest beta. We like it a lot. We've also tested Apple's latest multiprocessing G4 Power Macs, which are built to make every graphic designer's heart sing with joy. We'll tell you which one is best for you.

Finally, the latest Power Macs have another great new feature: Gigabit Ethernet networking. Experts agree that this could raise network speeds by as much as 300 per cent – another reason why Photoshop power users should be getting very excited.

1

Photoshop 6.0 preview

By Ian Winter

Whether your work involves print layouts, Web interfaces, multimedia projects, desktop videos, illustrations or 3D modelling, it's hard to escape the fact that, if you deal with image editing at any level, then Adobe Photoshop is your lynchpin program. It's the one item in the Applications folder that probably gets double-clicked every day and has no real competitor – or at least, none that are still being developed and published with any enthusiasm.

Clearly, any upgrade to Photoshop is doubly important: it affects a huge number of eagerly waiting Macintosh users; and it has the potential to transform the quality, speed and creative boundaries of our work.

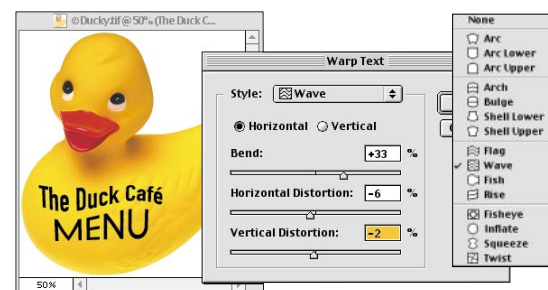
The worry among some users may be that there aren't many new directions in which Photoshop can go – so why bother paying for an upgrade, they'll ask. It's gratifying to report that – based on the beta release – the imminent release of Photoshop 6.0 will be well worth the fee. Adobe has paid close attention to failings in the program – in some cases, such as the Text tool, it has fixed some pretty dumb features that people have been complaining about for years – but it has left intact the core functions, layout and general "Photoshopness" of the program. Any current user will have to hit the brake only for a few minutes while getting used to the new feel, but they'll soon be back at cruising speed. And new users will now find more to attract them in Photoshop, thanks to Adobe's concentration on making many of the program's functions less mysterious to newcomers. This is chiefly due to a much more informative Options palette and better labelling of tools. True, it ain't KidPix, but at least it's more approachable than before.

The importance of the improved ease-of-use isn't to be underestimated: as a broader set of users are compelled to



Text layer

For many users, the new Text Layer will be the most far-reaching change in Photoshop 6.0. The old Text dialogue box is replaced by in-image text editing, where all text is selected and edited within the main Photoshop window. The new Character and Paragraph palettes give a similar level of control over typography as in Adobe Illustrator, and Photoshop has lost its annoying "feature" of only letting you use one colour in a text block.



Warp factor

Photoshop 6.0's new text-warping tool allows you to select a standard warp style and then fine-tune it. The style is applied to an entire text layer, and text remains resolution-independent and fully editable, even after the warp has been applied. The warp effects can't be applied to a shape layer, even though the technical possibility is clearly there.

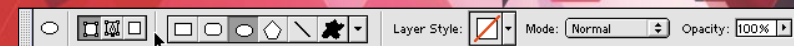
turn their hands to tasks such as Web-page design. It's essential that the professional tools are available (and usable) by people who have no background in image editing, but nevertheless know the kind of Web-site buttons, backgrounds and structures they want to replicate. Thanks to more automated features (particularly when it comes to Web graphics), Photoshop 6.0 should be the tool of choice for accomplished and novice designers.

What's new?

The most profound changes introduced in Photoshop 6.0 are those made to the Text tool, Path facilities, Layers palette and Layer Effects routines – all elements widely used by most Photoshop owners.

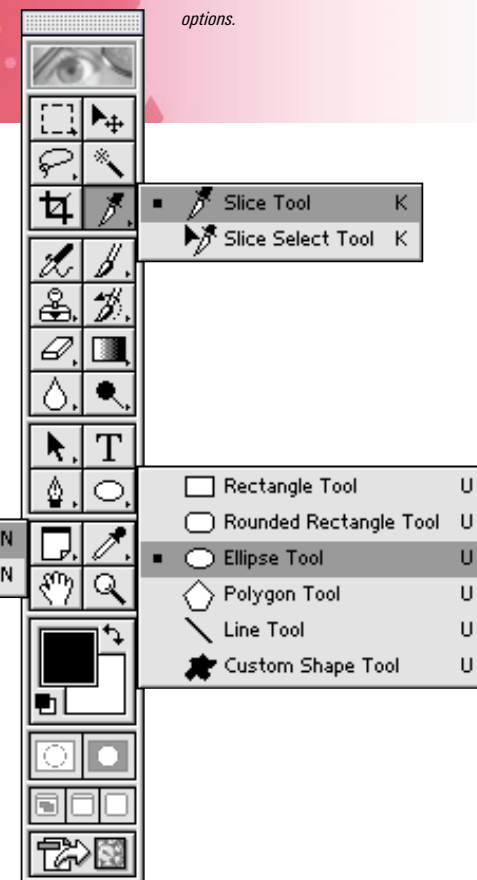
Text and Paths are evidence of Photoshop's move "beyond pixels", with a general introduction of more resolution-independent elements to the core program. For example, you can now enter and edit text directly on the main image-area, instead of being forced to use a separate dialogue box. Also, you can resize, distort and "warp" the text without losing its image quality or editability. Similarly, you can draw any resolution-independent shape by using the much-improved Path commands, which allow you to combine regular and irregular shapes to make new paths, as well as draw precise shapes with a bézier pen. In short, many of the drawing tools from Illustrator are now right there in Photoshop. The Paths are no longer restricted to acting as clipping paths or selection shortcuts, either. A new style of Photoshop layer – the Shape layer – means you can use the Path tools to directly create resolution-independent artwork, with the only limitation being that the object-fills can only be flat colours or gradients.

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Option palette

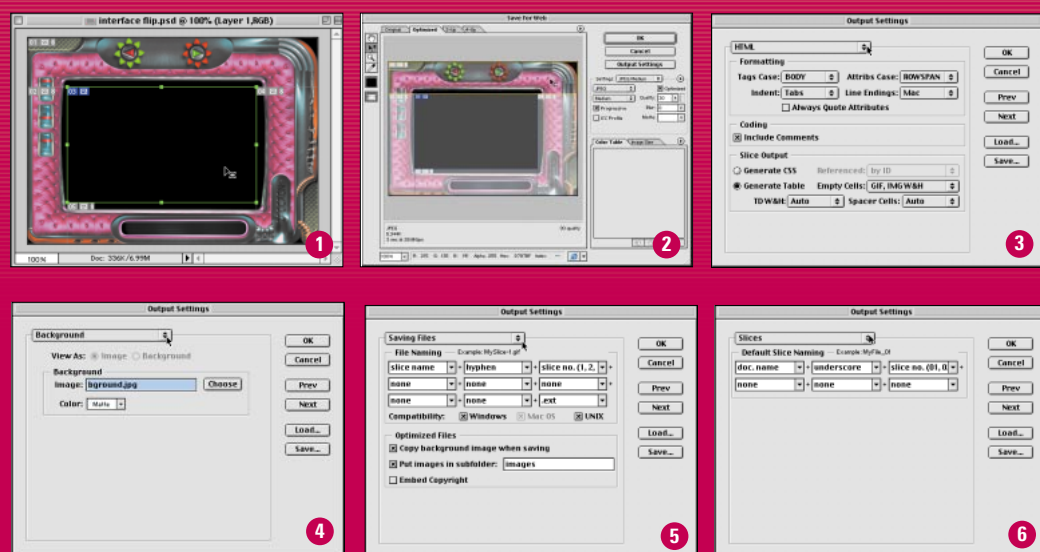
Shifted from its customary position with the other palettes, the Options palette is now stretched across the top of the screen (and can be undocked from there if you prefer), and gives you complete information about the current tool's options.



Toolbox tricks

All the old familiar tools are there, supplemented by a few new entries. These include the Slice tool (for creating divisions in an image where it needs to be split-up for use on a Web page), the ability to add Stickies-style notes and audio notes to a document (very useful if you're working as part of a team, or simply want to send somebody an audio postcard), and the new Object tools, for creating path-based shapes – at last giving some valuable Illustrator-like features to the program. Multi-part tools are easier for novices to decipher, too, thanks to complete tool-names in pop-up selection boxes.

New 6.0 feature: Slicing



Slicing

The Slicing tool lets you define the breakpoints in an image destined, on the whole, for the Web. The tool itself lets you draw out rectangular slicing areas 1, and then, when you use the redesigned Save for Web command 2, you're given the opportunity to define the export setting for each slice-area in turn. In addition, the Output Settings dialogue 3-6 lets you define the associated files to be exported along with the images. This includes: the HTML settings; whether you want to set up a slice as a background image; how you want to save sequential slice files; and the default slice-naming options.

New 6.0 feature: Layers

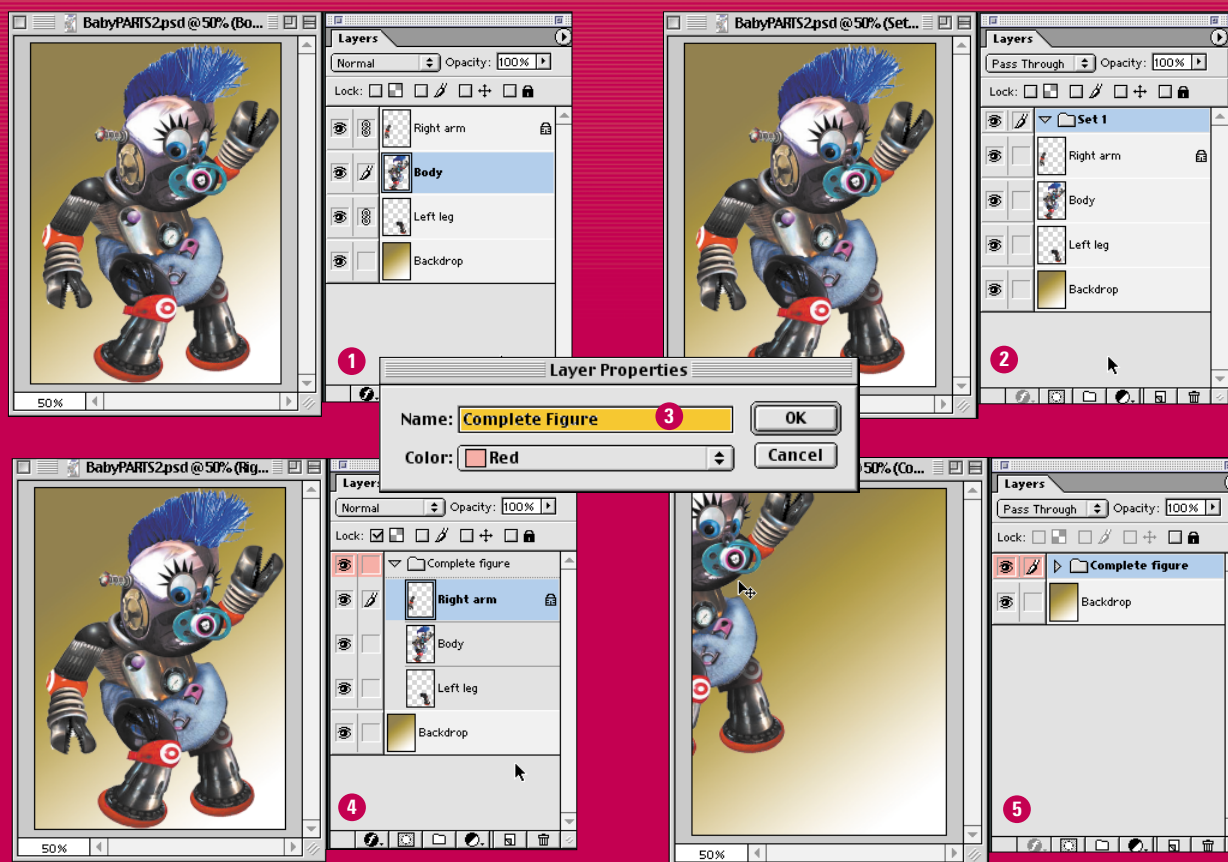


Layers

Alongside the revised Text commands, the most high-profile modification is the new Layers palette. This sample 1 shows the layer elements gathered into three logical sets (Logo, Skier and Backdrop). Note that layer effects (which are now referred to as Styles) are shown in a drop-down list within each layer, and the new Layer Clipping Paths options are clearly marked. With this increased complexity comes increased manageability, too: all of the Sets and Styles can be collapsed, giving a very clear view of the document structure 2.



New 6.0 feature: Layer sets



Sets appeal

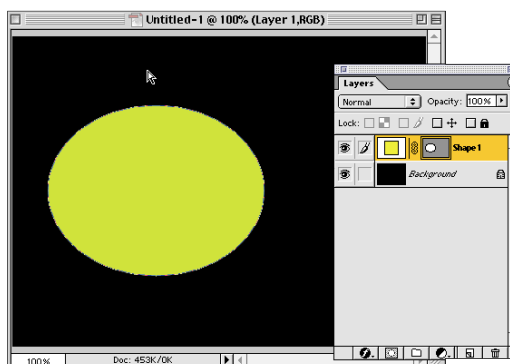
A major headache for most Photoshop users is that the number of layers in a complex project can be hard to keep track of – and with Photoshop 6.0 now allowing an unlimited number of layers, instead of the previous limit of 99, the chaos is likely to get worse. Thankfully, the Layers palette now allows you to gather layers into sets. Starting with several thematically related layers [Sets 1], you simply create the new set [Sets 2],

give it a name [Sets 3] and then drag the constituent layers into the set [Sets 4]. Naturally, layers in a set must be consecutive. Once layers are gathered into the set, you can move the set as a single unit [Sets 5], instead of having to link constituent layers. You can even adjust the transparency of an entire set without having to edit the transparency settings of all the constituent layers.

An example of how this can work in practice is with geometric company-logos. It will be possible to recreate a company logo that would normally have been produced in Illustrator, using several Photoshop 6.0 Shape layers instead. If these are then gathered together into a single set of layers – another new feature – then they can all be manipulated as a whole without losing quality. They can also be given transparency settings and montaged against complex backdrops within seconds. The alternative would be to keep rendering the Illustrator file into pixels at different resolutions, and even then, it would prove difficult to maintain correct colours between Illustrator and Photoshop, especially if the Illustrator original is built using a CMYK colour space, and the Photoshop workspace is RGB.

The introduction of Shape layers is not the only modification to Photoshop's Layers palette. It's possible in version 6.0 to have any number of layers – you're no longer restricted to 99 – to gather them into logical sets, and to alter the processing-style of an Adjustment layer, without rebuilding it from scratch. A major modification is the new-looking Layer Effects panel. This now gathers all of the Layer Effects – such as embossing, drop-shadows and edge-stroking – into a single floating-palette so all effects can be applied or adjusted in one swoop. What's more, any group

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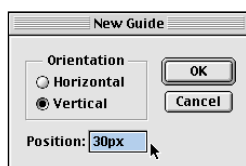
Key Layers

In earlier versions of Photoshop, any layer could have its own greyscale mask attached to define variable layer-visibility. Photoshop 6.0 improves on this with Layer Clipping Paths, which allow you to use a vector image to define the area of visibility – a technique used by the new vector shape tools. The key advantage is that you can scale the Layer Clipping Path without loss of quality, and so have given more freedom to experiment with element scales in a design. You can attach a Layer Clipping Path to any layer, and can even put a clipping path and layer mask on the same layer, giving resolution-independent and pixel-level masking all on one layer.



Crop circle

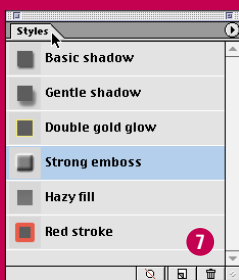
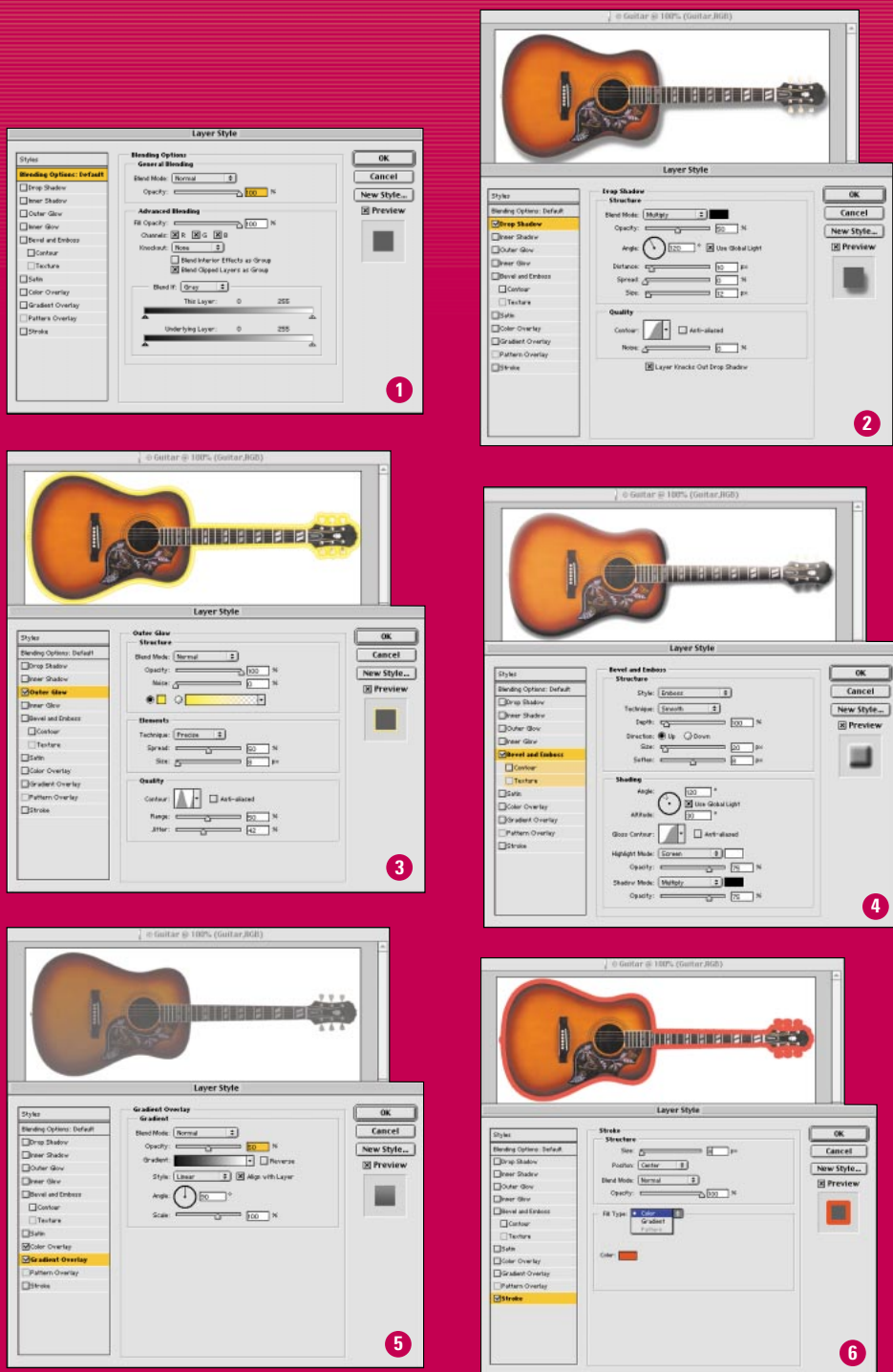
When you select an area with the crop tool, the portion to be cropped away is darkened, giving you a better visual feel for the crop action's effects.



Guide rule

A small – but important – addition for Web-pages designs, as well as other geometric designs, is the new command that places snap-to guides numerically.

New 6.0 feature: Styles & Blending



Styles & Blending

Photoshop's Layer Effects routines have undergone a complete redesign and upgrade for version 6.0. There is now a single multi-mode dialogue box for assigning a layer's blending options 1 and Styles (the new name for Layer Effects) 2–6. A close look at each of these Layer Style dialogue-modes reveals the new features, including: better fine-tuning of blend options; the addition of contoured edges and noise-options to many effects; and new Satin, Overlay and Stroke effects. Also welcome are the improved highlighting and shadowing controls. Virtual Light Sources now has a "height" setting alongside its customary 360-degree direction indicator. Any combination of blending and styles can now be saved in the new Styles palette 7, so that a single click will apply all of the settings to any layer. Styles-palette contents are saved in Photoshop preferences, not with the document, and so it's easy to apply standard styles to multiple documents – although it's likely, too, that this palette will become extremely crowded, as it has no equivalent to the Sets available in Actions and Layers.

of Layer Effects can be saved as a single named Style, and so standard effects can easily be reused – and exported for use by other Photoshop owners – with a single mouse-click.

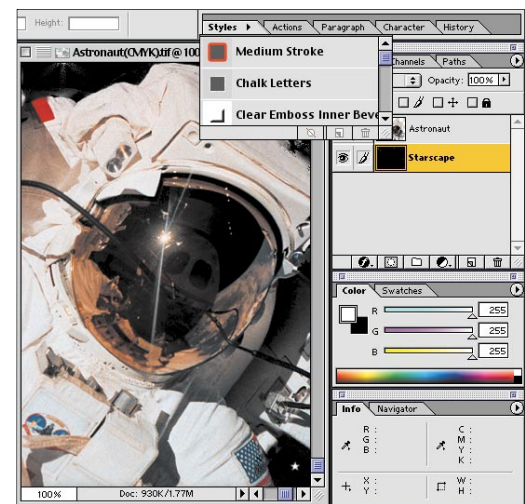
Surprisingly – at least in the beta software that we worked with – there are no additions to the Filters menu. But in addition to the major features identified in the screenshots shown here, there are host of small changes that add-up to a radically new program. They include:

- A Trim command that cuts away consistently-coloured areas around an image – useful for large files consisting mainly of white and black space.
- A single interface to manage all of the program's presets (such as brushes, swatches and gradients).
- An 'Open Recent' command.
- The ability to save Actions as "Droplets", so that you can drag files onto the Droplet icon on the desktop and apply the requisite action, without needing to open Photoshop.
- A workflow manager to help with collaborative projects.
- Improved support for 16-bit channels, allowing you to work more extensively with 48-bit RGB images.
- The ability to lock individual layers – either locking content and/or making the layer immovable.
- Much broader support for press-previews, with the CMYK preview being supplemented by the ability to view individual plates.
- A more automated Extract command, for speedier masking (for producing cutout images).
- More "relaxed" – and broadened – colour-management routines.

Even though the program we tested was a beta release, it appears to be very stable – except for some file open/save issues. The only really big hole in Photoshop 6.0's feature-set – at least when compared with its few competitors – is its inability to produce animations and mouse-rollover effects. Annoyingly, this is a task still performed by ImageReady – version 3 of which will ship with Photoshop 6.0 – instead of being incorporated directly into Photoshop.

In fact, as just about all of the "upgrades" in ImageReady are simply reproductions of the upgrades in Photoshop 6.0, such as text improvements, better layer organisation and reorganized layer effects. it's a puzzle why Adobe didn't simply merge the two programs and cut out the confusion. Maybe it wants to have something to shout about in Photoshop 7.0?

But as things stand, at least Adobe has made the effort



Well and good

A new "palette well" at the right-hand end of the Options bar can be used to gather the palettes that you use less frequently. This leaves them only a click away, but allows for a less-cluttered interface.

New 6.0 feature: Liquify



Liquify

Anybody familiar with Kai's Power Goo or SuperGoo will recognize the effects

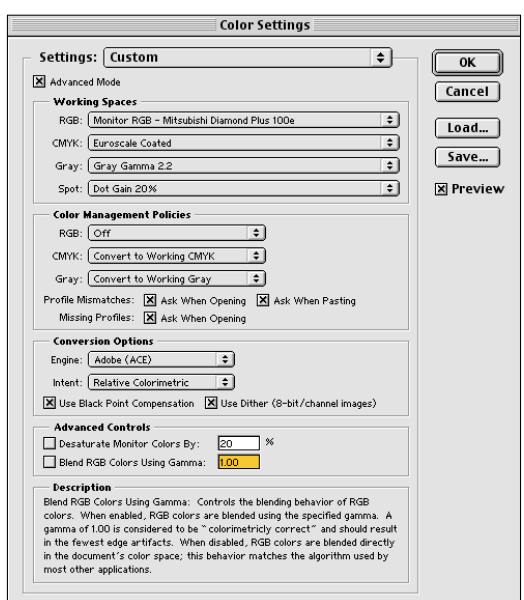
available in Photoshop 6.0's Liquify command. Starting with a regular image 1, the command allows you to use custom pain brushes to distort the image. Effects include enlargement, contraction, twirling, warping, pixel-shifting and reflecting. In this sample 2, the eyes have been enlarged, and the nose and mouth warped to new positions/shapes. The ability to protect areas of the image by "freezing" and also to reconstruct the image based on the original, means that free experimentation comes naturally.

to closely integrate Photoshop and ImageReady. The two work almost seamlessly – as long as you have sufficient RAM for them to run concurrently – with graphics being auto-saved when you move between the programs, and many of Photoshop's new features (such as layer effects and text warping) being available as animation controls in ImageReady.

Conclusion

With all of these changes, Photoshop easily stays ahead of the field – although the field has been worn down by Photoshop's dominance over the years, so that now only Painter, Fireworks and Canvas are serious competitors.

It's true that other programs may excel in specific areas (Painter for freehand, brush-based artwork, and Fireworks for orderly GIF animation), but with version 6.0 Photoshop will clearly remain as the primary production environment for graphics, whether they're destined for the printed page or on-screen applications.



Colour Spread

In earlier incarnations, Photoshop's colour-setup commands had been a little scattered and hard to understand. They are now marginally easier to understand, thanks to explanatory help-text in the new Colour Settings window. And the fact that they're all in one place, makes it much easier to fine-tune all colour settings in one go. But as colour accuracy is such a knotty problem – and one overlooked by most Photoshop users – it would be even better if there was a step-by-step approach to configuring these commands.

2

The ultimate Photoshop Mac

By Ian Winter



Photoshop users are always moaning that their blurs, distortions and textures take way too long. Even when designer grouching is at its most annoying – banging the side of the Power Mac, whistling and long sighs – it's hard not to sympathize. There's a lot less waiting around than a few years ago, when even Quadras took half-an-hour to write an image's preview. However, it still feels like dead time on deadline day.

Photoshop 6.0 is packed with some great new features, but these are invariably further excuses for the computer to draw slow-moving progress bars. Surely, a 800MHz or even 1GHz G4 processor would help speed things up...? Yes, it would, but sadly, it doesn't yet exist. There are 1GHz Pentium III chips, but Apple has publicly run tests demonstrating that a 500MHz PowerPC G4 is roughly the same speed as a 1GHz PIII.

In the absence of a 1GHz G4, it's fantastic news that Photoshop has a hidden weapon in the long war against waiting – one we haven't been able to use for several years.

That secret-speeder is a plug-in that allows Photoshop to utilize more than one processor in a single Mac. For various reasons (see "MP history"), Macs haven't featured more than one processor since 1996. Now, Apple has introduced two G4 chips into its high-end Power Macs. And multiprocessing is back on the cards for Photoshop. Maybe, it's time we stopped moaning and started moving.

One plus one doesn't equal two

The multiprocessing G4 Power Macs sure look tempting. Two processors instead of one equals twice the speed, right? Wrong. It's a lot more complicated than that. Having more than one processor in your Power Mac isn't going to automatically improve your machine's performance – unless you're a heavy Photoshop user, or use one of the few other applications that take advantage of the extra chip.

We tested the two new multiprocessing Macs (450MHz and 500MHz) against their single-processor predecessors. In straight non-Photoshop tasks, MacBench 5 rated the 500MHz DP Power Mac about the same as the old single-processor 500MHz Power Mac, but 16 per cent faster than the old 450MHz G4. That might seem odd, but we'll explain why later on.

But, on testing several key Photoshop functions, the multiprocessing (MP) Macs bested their single-chip

counterparts by up to 60 per cent. If a lot of your working day is spent crunching images through filters and effects, buying a Power Mac with two G4 chips installed might save you a hell of a lot of time. Users of Cinema 4D XL really hit the jackpot. Our model-rendering tests showed that two chips worked nearly twice as fast as one with this 3D-animation software.

The reason that the MP Macs aren't any faster over standard tasks is that Mac OS 9, and earlier versions of the Mac operating system, aren't sophisticated enough to take advantage of both processors. The Finder, for instance, will never touch that second processor. In fact, it doesn't even know that it's there. The forthcoming Mac OS X, on the other hand, is built to play with more than one chip; more on this later.

Software has to be specially optimized to take advantage of the second processor. At the moment, only a few applications are MP-optimized: Apple's Final Cut Pro video editor; NewTek's 3D modeller LightWave 6; Maxon's Cinema 4D XL 6.1; Terran Interactive's Media Cleaner Pro; Casady & Greene's SoundJam MP; and MPEG Power from Heuris. But the bulk of the MP Macs' expected market is made up of users of Adobe's flagship Photoshop image-editor.

Alongside QuarkXPress, Adobe Photoshop is the major application that makes the Mac the number-one computer for graphic design and publishing. So the fact that Apple's new high-end Power Macs are big news only to Photoshop users is fine by us. If Apple had to speed-up the processing power for any of its users, Photoshop was the target market to hit.

Other major programs, such as QuarkXPress and Microsoft Office, just don't need two G4 chips blasting away at drawing boxes and calculating spreadsheets – it would have been overkill, anyway. The 400MHz Power Mac is way fast enough for these guys, but Photoshop users should seriously consider the top-end systems.

G4 already faster

Apple has made much of the PowerPC G4's Velocity Engine that pumps-up its speed on certain specific functions. Again, Adobe says that, with Photoshop's Velocity Engine plug-in installed, G4 Power Macs are much faster than G3s. It claims that Minimum and Maximum filters are 4 to 15

times as fast; stroking a selection (four to five times); Lighting Effects Filter (4 to 17); Image Sizing/Rotation/Free Transform (two to four); Find Edges/Sharpen Edges/Despeckle (three to four times); Distortion plug-ins (two to three); and Gaussian Blur/Unsharp Mask (twice as fast).

While remaining a separate plug-in, the Velocity Engine program booster will install automatically with Photoshop 6.0.

Multiprocessing, on the other hand, doesn't just speed-up select functions like the Velocity Engine does. It boosts performance right across the program.

Adobe's product manager for imaging products, Karen Gauthier, claims that most of Photoshop is souped-up for the MP Macs: "A general rule of thumb is that, if it's something that usually takes a lot of time, then it will be faster on an optimized system," she told *Macworld*.

"All of our optimizations are developed as plug-ins, using the bottleneck architecture that was developed several versions back," says Gauthier. "Under this architecture, plug-ins can be used to add optimized code that replaces the original code in the application. Generally, the code that is optimized via these extension plug-ins is very low-level. It affects operations throughout the application, rather than being attached on any one feature or command."

It's not just chips

We spoke to a lot of Photoshop users to find out what made them grumble most. Alongside the Lighting Effects, Radial Blurs and KPT filters, we heard a lot of moans about the length of time spent watching progress bars during the opening and saving of files. You'll make these vital operations on every file you work on, so the times spent here are crucial.

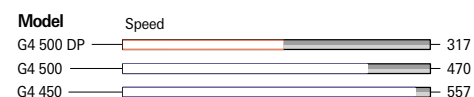
The thing about opening and saving is that the computer's processor doesn't have a lot to do with the whole process. Yes, its speed does have a bearing on opening and closing times, but the landlords – if you'll stick with me on this tortuous metaphor – are your hard drive and memory allocations.

If you're relatively happy with your filter and effects

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G4 500 MP Photoshop actions

Best results in test. Shorter bars and faster speeds are better.

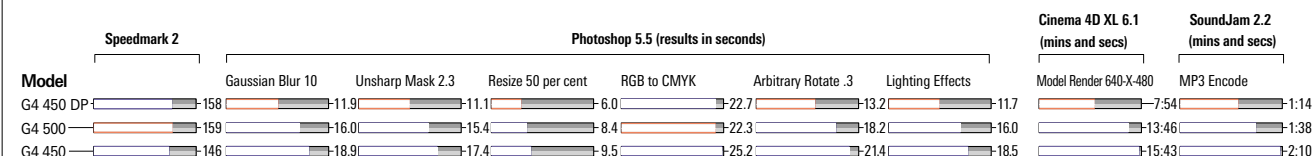


Behind our tests

The test was conducted using Photoshop 5.5 with the recent multiprocessor update. A series of 20 filters was applied, including blurs, inversions and creative effects.

G4 450 MP speed chart

Best results in test. Speedmark 2 scores are relative to an iMac 350MHz which is assigned a score of 100.



Behind our tests

Each system was running Mac OS 9.04, had 128MB of RAM, a default system disk-cache of 4MB, and Virtual Memory disabled for app tests. Displays were set to 1,024-x-768 pixels, at 24-bit color. Speedmark 2 is a suite of common tasks. Photoshop tasks used a 50MB file. Photoshop's memory partition was set to

80MB, and Photoshop History was set to minimum. 80MB of memory was allocated to Cinema 4D XL. We rendered a 3D model at 680-x-480 pixels. A 9:25-minute track from an audio CD was used for our MP3-encoding test. It was converted using default settings of 128kbps in SoundJam 2.1.1.



speeds, but miffed about the amount of time it takes to open and save your files, hang on before splashing-out on the top two Power Macs. The MP Power Macs will be faster at these functions because of their faster chips – but mostly because of their larger, faster hard drives and greater memory mass.

But you could make up for the single-processor Mac's time-lag by adding more memory and installing faster SCSI hard-drives.

All three Power Macs ship with Ultra ATA/66 hard drives. The 400MHz Mac has a 20GB drive running at 5,400rpm. The 450MHz and 500MHz MP Macs have 30GB and 40GB drives respectively, both running at a speedier 7,200rpm. Alternatively, you can equip any of the Macs with even faster 10,000rpm Ultra-160 SCSI hard-drives of either 36GB or 72GB capacities. Adding a 36GB SCSI drive will cost an extra £600 or so, and 73GB about £1,300. With the single-chip Power Mac costing £1,300 less than a dual-chip 500MHz model, it's worth considering the faster drive versus the extra processor.

These SCSI drives read-&-write data at much higher speeds than ATA drives. Ultra160 SCSI supports up to 160MB of data per second, compared to ATA's 66MB. Install SCSI hard drives and you'll notice as much of a speed-up as a second processor. SCSI's RAID capabilities also make it an attractive option for heavy-duty users.

Each Power Mac also comes with more memory as the processor speed climbs. The 400MHz Mac has just 64MB of RAM – nowhere near enough for the Photoshop user. The 450MHz model has 128MB as standard, and the top-end 500MHz Mac packs 256MB. The more memory that you can

assign to Photoshop – or most other applications for that matter – the faster your work will pass. Memory is thousands of times faster than a hard drive, and so you want as much of your image held in RAM as possible. When the Mac has to keep referring to the hard disk for data, you'll notice the slowdown.

So, if you're thinking of buying the single-chip Power Mac and fitting a faster SCSI drive, you must also splash-out on a big chunk of extra RAM. £300 will take you to the 256MB level, where just about everything you're working on is held in RAM, not disk. Note that, although the Power Macs can take a massive 1.5GB of RAM, the Mac OS can handle only 999MB of the stuff.

Next year, MP is a must

Multiprocessing is a boon to Photoshop owners, but it will really take off next year, when Apple starts shipping its next-generation Mac OS X operating system. Unlike the current Mac OS, Apple's new OS can innately use multiple processors, splitting off all the duties of the computer with ease. On a Mac running OS X, two 500MHz processors really could make you feel as if you're running at 1GHz – because the system will be able to push both of those processors to their limits.

OS X's pre-emptive multitasking provides a more-efficient way for applications to share the Central Processing Unit (CPU), by actively managing access to the processor. Mac OS 9 is limited to supporting co-operative multitasking, in which applications must give up CPU time for other apps to have access to it.

Buying an MP Power Mac now means that you'll be able to take advantage of OS X's modern kernel. Of course, for full impact, you'll have to wait for developers to optimize their applications for OS X – and pay all the upgrade fees for the privilege. But most of the major Mac developers – including Adobe – have promised to get OS X-ready versions of their software out as soon after Apple's release date as possible. In fact, at a recent meeting, Adobe's Gauthier told *Macworld* that Photoshop 6.0 was originally going to debut as an OS X application. Only Apple's OS X delays forced Adobe to release the latest version beforehand. You can bet that Photoshop will be one of the first optimized programs to truly take advantage of OS X, in the same way that it's out here now benefiting from the multiprocessor G4s.

Macworld's buying advice

Apple's new multiprocessing Macs make killer machines for Photoshop users, but they won't dramatically transform the entire Mac experience until the advent of Mac OS X. Buying one now makes your purchase future-safe, ready for the multitasking joys of the new operating system. But faster hard drives and more memory might speed-up your working day right now just as much as that extra processor would.

Applications that are dual-processor-ready have no theoretical limit to the number of processors that are present. And, according to Apple sources, there's no reason why a third-party company couldn't offer additional processors to customers. So, we could see quad-processor Macs in the months to come – if the upgrade-card companies can manage to come up with the technology to make it happen.

In the meantime, there hasn't been a better time to upgrade your Power Mac. As always, your decision will come down to budget. Weigh-up your options before rushing into a decision. Photoshop users should aim to have at least 128MB of memory, and we all know that the larger the hard drive, the more you'll get out of the program. Hard-drive speed should also be considered. And then there's always that cute G4 Cube.

The history of multiprocessing

In 1995, and with Apple's blessing and co-operation, clone maker DayStar Digital developed a system extension, nPower, that let the Mac OS work with multiple CPUs when running programs designed for multiprocessing. It became the first company to ship a multiprocessor Mac. Users of Adobe Photoshop, for example, could benefit from filters to colour corrections. Even today, owners of multiprocessor Macs can take advantage of a Photoshop's multiprocessing support to speed roughly 300 different commands. Other early beneficiaries of the technology included software from Elastic Reality, Insignia Solutions, Live Picture, Macromedia and Strata. But the Finder, which was clueless about the extra processors, saw no benefit – one processor had to do all the work.

Apple licensed DayStar's technology and made it the basis of the Power Mac 9500 MP, as well as integrating it into the Mac OS. But when the PowerPC G3 processor hit the scene, the Mac multiprocessor market stagnated.

The G3 Loner Unlike the PowerPC 604 chip, which could do multiprocessing, the PowerPC G3 is unable to play well with others. As a result, Macs had to go it alone – and Macintosh users had to decide between sticking with a gaggle of slower chips or one single, fast G3.

However, the G4 processor is able to act in-tandem with others of its kind, and Apple set the stage for its announcements today by tuning up Mac OS 9 to work better with multiprocessing systems. Prior to the OS update, multiprocessor users couldn't use Virtual Memory, among other quirks.



Gigabit Ethernet

By David Fanning



Gigabit Ethernet, or 1000BaseT if you prefer, has made it out of the domain of high-end power-users and into the mainstream. Here, we take a look at what you can expect from it, and whether – or when – to make the change.

For those unfamiliar with ethernet, it's the medium by which Macs are connected to form a network. Unlike PCs, Macs have always had networking built-in. The first Mac-networking used Local Talk cabling, which was simple to use, but slow. Before long, ethernet became the standard, and 10BaseT was the preferred cabling. The same 10BaseT cabling was also suitable for 100BaseT when it became standard on all Macs a couple of years ago. Now, the new G4 Power Macs – including the G4 Cube – have 1000BaseT either built-in, or as a built-to-order option. So what's the big deal? How fast can a network actually go?

When 10BaseT ethernet debuted, it was ten times the speed of its predecessor, or at least it should have been on paper. In fact, network speeds always perform best on paper; the hypothetical speeds are never matched in real life. When 100BaseT was released, it didn't improve speeds by a factor of ten – it merely doubled them.

In our tests, a 1000BaseT network didn't even double the 100BaseT speeds, although it did improve file-transfer speeds by around 50 per cent. Files fly across the network rather than plod. Even opening remote volumes is much zippier than before. Even if this performance won't change your working life, it does at least free you from the headache of a clogged and ponderous network.

Those most likely to gain from Gigabit Ethernet are graphics creatives that routinely transfer large files. Such users include Photoshop aficionados and people using digital-video applications. If you're more involved in word processing, or even Web development, the speed difference will be negligible: if a file takes one second to transfer instead of two, the difference is immaterial. However, when

working with files of 100MB or more, the time-saving is substantial. Moving 1GB of data across the network takes less than nine minutes with 1000BaseT – enough time only for a cheeky cigarette. Try the same thing with 10BaseT, though, and you could take a lunch break in the half-hour it takes to transport the data.

Digital-video users regularly work with files ten times this size, and, until now, the only option for moving such monsters was using expensive removable RAID drives. Gigabit Ethernet means such humungous transfers can now be performed across the network.

Mercifully, video files usually remain on the same machine, but Photoshop users aren't so fortunate: files nearly always need to be moved, and the network is the most sensible conduit for the data.

One popular office file-transfer option is by "sneaker-net". That's to say, files are copied to a Jaz disk – or something similar – and then mounted on the recipient machine across the room. This can be a real pain in the rump if either machine freezes.

So how, exactly, will new-Mac owners implement 1000BaseT into their networks? It isn't as straightforward as the upgrade to 100BaseT, which uses the same cabling as 10BaseT. Or, I should say, mostly the same cabling. A properly installed 10BaseT network should be able to handle 100BaseT without changing the cabling. However, lower-grade cabling may not work.

Even if you have perfectly good 100BaseT cabling, it won't work with 1000BaseT – unless it was installed to Category 5e specifications. It's common to snip-off four of the eight wires in an ethernet cable, because 10 and 100BaseT only use four of the wires. Gigabit Ethernet, however, uses all eight. This means you may have to replace your cabling, or at least change the connections and plugs.

Once you've cleared this hurdle, there's another problem: your hub isn't going to be able to handle 1000BaseT ethernet. Although your Gigabit Ethernet card may be able to drop down to 100BaseT, this misses the point somewhat. What you need is a gigabit switch. We used a Farallon four-port switch in our tests. It's not a small switch – spanning the width of a rack – and considering it has only four ports, this seems like overkill.

Just four ports is a little mean. After all, you need to use one of these ports to connect to the rest of your network. After a little research, I discovered the reason why. Gigabit Ethernet isn't supposed to be used for desktop machines at all; hub and switch manufacturers are currently designing 1000BaseT products only for server applications. But Steve Jobs is again pushing new technology into the mainstream and, hopefully, the manufacturers will follow. However, it will take time for prices to come down and models to be designed with bigger workgroups in mind. You can buy 16- or 24-port switches, but only from companies such as HP and Lucent. The price of these products runs into tens of thousands of pounds – which is out of reach for all but the super-rich studios.

Gigabit Ethernet has been around for two or three years, but has been strictly servers-only until this year. The reason for this is that gigabit over copper – or Category 5 ethernet

cable – only appeared this year. Previously, gigabit was available only using optical-fibre networks, which are more specialized than copper wires. With optical-fibre, switches are typically connected to a server. From that switch, other 10/100BaseT hubs can be connected using a single 1000BaseT port. This way, connections between hubs do not bottleneck. You can still buy fibre-optic cards and hubs, but, unless you're using it for connecting 10/100 hubs and switches, you should steer clear. Copper is easier to install and handle.

Macworld's buying advice

So, Steve Jobs thinks we're ready for Gigabit Ethernet – even if the network companies aren't ready for desktop machines equipped with it. Although this will change, it won't do so in the immediate future.

At the moment, the chipset used in the Farallon switch needs to be changed to add more ports. Currently, the chipsets capable of this are produced in numbers so low that the price is prohibitive. Until the volume of manufactured chips is increased they'll remain expensive.

It's a classic *Catch-22* and it's difficult to predict when this situation will change. At the moment, nothing is on the horizon until the middle of next year, perhaps longer.

In the meantime, the 1000BaseT cards that are in use



are doomed to remain under-utilised. However, the cards are included in the new G4 machines – and the build-to-order option for the G4 Cube is only £140 extra. Third-party gigabit cards are currently around £600, so you may as well include it and be ready for the future. Using it, though, isn't cost-effective – unless you've a small workgroup and you can use the Farallon switch.

It's a fair copper
Farallon's £450 NetLINE Gigabit PCI card is one of the first gigabit cards to use copper wiring.

MW

Cryin' Gigs

The £835 Farallon Fast Startlet Gig Switch is the size of a 24-port hub – but sports just four ports.



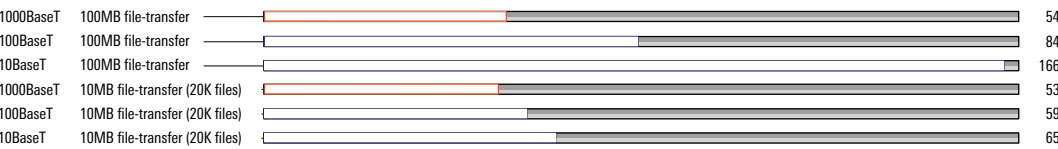
Gigabit performance: is it worth it?

Best results in test.

Auto block-transfer tests



Real-world tests



Behind our tests

The automatic block-transfer tests were done using Thruput 1.2. A benchmarking utility for testing network speeds. The real-world tests were done the old-fashioned way, with a stopwatch. These tests show the time in seconds it takes to transfer a 100MB file, and also a 10MB folder full of 20K files. The 100MB file represents large files, as would typically be used with Photoshop. The 10MB folder represents those file-sizes commonly used for Web development.

Scan and deliver

High-end scanners are more popular than ever — but patience is needed for top results.

By David Fanning

Because entry-level scanners now cost as little as £50, home scanning is now as commonplace as home cooking. But for graphics professionals, such bargain basement machines are of little use. Rough picture-placement is about all they'd

be used for. For high-end scanning you need to pay high-end prices. However, at least the quality of the hardware is now comparable with older drum scanners, and most models gives real value for money. Here, we take a look at the current crop of top-end scanners

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PHOTOGRAPHY: MIKE LAYE

to discover which cut the mustard for professional use.

People tend to forget that scanners have been around almost as long as the personal computer, and it is very much a mature technology, which is why they're so affordable. The technology has peaked, with an abundance of models well-equipped to handle the high-end demands of pre-press pros.

The one area where there's real room for improvement is in the scanning software that drives them. Most of the software we examined makes life difficult for the first-time user. The options are usually confusing, and even though a high degree of control or automation may be offered, scanning a picture is frequently a complicated business.

A well laid-out application should be intuitive, obviating the need for a manual, so even complex scanning settings are simple to execute. You'll probably need to read and re-read the manual, or even resort to a training course to get the best from the software.

Also, scanner software can be damned ugly. I'm not suggesting they should sport the latest Aqua interface, complete with customizable skins, just that it'd be nice if they were designed by interface specialists, rather than software engineers.

C'mon guys – as your hardware is so mature, how about spending a little of your R&D budget on prettifying-up the software? Consumer scanners sport single-button operation and simple interfaces, so why not the pro range? It can't be such a tough nut to crack.

The hardware

There are many ways to judge a scanner – but some of the measurements bandied about by slick showroom salesmen are not all they seem.

Resolution This is the obvious benchmark – but is not necessarily the key factor. Resolution is usually quoted in dpi (dots per inch) or ppi (pixels per inch). Both mean the same thing and the rule of thumb is that higher resolutions are better.

The truth is, though, that you only need to scan at more than 300dpi if your output will be bigger than the original image – often the case when working from transparencies. A 35mm slide can be scanned to fill an A4 page, or even larger, with high-resolution scanners.

Most of the scanners at this level are capable of at least 1,200dpi, with some capable of more than 3,000dpi. If you're likely to blow-up a 35mm slide to A3 size on a regular basis, pay for the highest resolution available. Otherwise, you'll be better off using more-suitable original art, such as 4x5 film – rather than stretching the limits of both the scanner and the slide film.

Colour depth A better guide to a scanner's class is its colour depth. This refers to the



Epson Expression Pro 1600

The Expression Pro 1600 is not in the same league as the rest of the scanners tested. It's a fraction of the price, and its specifications reflect this.

However, the fact that this scanner doesn't make the grade for pre-press pros doesn't mean that it's without merit. In fact, the scans from the Epson were very good, and the price means that a freelance designer can afford it.

The software does a pretty good job, and it's simple to use. The connection is USB or SCSI, making it convenient for USB-equipped Macs, unlike the rest of the scanners tested that use only SCSI.

Macworld buying advice It may not have the same level of functionality as the more expensive scanners, but this is still a serviceable model for graphics professionals.

Price	£714
Size	A4
Colour depth	36-bit
Dynamic range	3.3D
Standard resolution	1,600-x-3,200dpi
High-resolution mode	n/a
Reflective scan-area	216-x-297mm
Transmissive scan-area	216-x-297mm
Interface	SCSI, USB
Bundled software	Epson TWAIN Pro; Photoshop 5.0 LE; Textbridge Classic; Presto Page Manager.
Contact:	Epson, 0800 220 546

Star Rating ★★★★★/7.5



Agfa DuoScan HiD

Many competitors have taken up the twin-plate design introduced by Agfa. The twin-plate style means the flatbed is used for reflective art only, with transparencies using a draw that holds a variety of slide holders.

Unlike many of the other twin-plate models, the HiD doesn't have a high-resolution scanning area. This means the resolution is 1,000dpi – enough for most jobs, but extreme enlargements are out. The dynamic range is among the highest tested, which means extra detail is visible in highlights and shadows.

Macworld buying advice With an A4 scanning area, the DuoScan HiD is suitable for studios performing low-volumes of scanning but, at £1,295 it's also an attractive deal for low-end professionals.

Price	£1,199
Size	A4
Colour depth	42-bit
Dynamic range	3.7D
Standard resolution	1,000-x-2,000dpi
High-resolution mode	n/a
Reflective scan-area	203-x-355mm
Transmissive scan-area	203-x-254mm
Interface	SCSI
Bundled software	Agfa FotoLook; Agfa ColorTune
Contact:	Agfa, 020 8231 4903

Star Rating ★★★★★/7.7



Agfa DuoScan T2000 XL

The normal scanning resolution is 667-x-2,000dpi – plenty for larger-format film and reflective artwork, but for slides you need to switch to high-resolution mode. This mode uses a lens to focus a smaller strip of the scanning surface at an optical resolution of 2,000-x-2,000dpi (not to be confused with the less significant interpolated resolutions sometimes quoted on consumer machines).

Due to the use of twin-plate technology, the slide tray can be used without glass. This prevents Newton Rings – distortion caused by diffraction where the film touches the glass.

Macworld buying advice The DuoScan T2000 XL is aimed at professional pre-press users. Its A3-scanning bed can hold dozens of images for batch scanning, making it an ideal workhorse.

Price	£4,495
Size	A3
Colour depth	36-bit
Dynamic range	3.5D
Standard resolution	667-x-2,000dpi
High-resolution mode	2,000-x-2,000dpi
Reflective scan-area	304-x-457mm
Transmissive scan-area	241-x-304mm
Interface	SCSI 2
Bundled software	Agfa FotoLook 3.0; Agfa ColorTune.
Contact	Agfa, 020 8231 4903

Star Rating ★★★★★/8.4



Agfa DuoScan T2500

This DuoScan model is similar to the HiD, but the price is over three times higher, because of its extra high-resolution mode. It uses a similar dual-lens system to the T2000 XL to achieve an optical resolution of 2,500dpi. This lets you enlarge 35mm slides to full-page images – at the expense of dynamic range and colour depth.

As I mentioned earlier, you may get better results by ensuring that original artwork is in the best format. But repro houses don't have the luxury of specifying formats to their clients.

Macworld buying advice The results from both DuoScans were virtually identical in our tests, but the specs would lead one to believe the cheaper HiD model is better. However, the only reason to spend the extra £2,725 is for its superior resolution.

Price	£3,995
Size	A4
Colour depth	36-bit
Dynamic range	3.4D
Standard resolution	1,250-x-2,500dpi
High-resolution mode	2,500-x-2,500dpi
Reflective scan-area	203-x-355mm
Transmissive scan-area	203-x-304.5mm
Interface	SCSI
Bundled software	Agfa FotoLook, Agfa ColorTune
Contact	Agfa, 020 8231 4903

Star Rating ★★★★★/8.0



Heidelberg Saphir HiRes

The Saphir HiRes takes the twin-plate system a step further, by introducing a moving-plate design. This is a glass plate that moves over the scanning head, rather than moving the scanning head over the image. This reduces vibration, which can affect image quality. I've never seen the effects of vibration in a scanned image: the tranquillity of our lab never confronts items to be tested with such a hurdle. Maybe in a pre-press environment this feature would come into its own.

The HiRes also sports an impressive spec sheet, with an optical resolution of 3,048-x-3,048dpi and a 3.6D range. Combined with the excellent, though at times cryptic, LinoColor Elite software.

Macworld buying advice The Saphir HiRes beats all comers in the A4 range.

Price	£3,995
Size	A4
Colour depth	42-bit
Dynamic range	3.6D
Standard resolution	1,220-x-3,048dpi
High-resolution mode	3,048-x-3,048dpi
Reflective scan-area	305-x-432mm
Transmissive scan-area	216-x-297mm
Interface	SCSI
Bundled software	LinoColor Elite; ScanOpen ICC Lite; Desktop FontExplorer
Contact:	CPS, 01242 285 100

Star Rating ★★★★★/8.8

range of colours that the scanner is capable of recording. Early scanners sported 24-bit colour, which is millions of colours according to your monitor control panel. To be precise, it's 16,777,216 colours – surely enough for anybody.

The difference between two adjacent colours on a 24-bit colour wheel is indistinguishable to the human eye – but not to a scanner's. Scanners can work at

even higher rates, such as 36-bit and 42-bit. This may sound excessive, but the reason for this seeming over-sampling is that capturing such a colossal amount of colour data allows the scanner/software to choose the optimum colour-range for display.

Even if the image shows up as a 24-bit file, a 42-bit scanner will pick the colours from a palette of over four trillion colours. Adobe Photoshop allows you to load a 42-bit

image (16 bits per channel), but drawing and filter functions are disabled, and only functions such as colour balance and levels adjustment are available.

With access to such a massive colour gamut, is there much to choose between 42-bit scanners? Yes – because, although these scanners can see four trillion colours, they can't output this number.

Dynamic range A better guide to output is

the dynamic range, which measures scanners' ability to measure brightness, and is quoted as a number between 0.0D and 4.0D. Zero is pure white and four is black. The higher the number, the more detail you will be able to pick up in the highlights and shadows of an image.

To test this ability, a special test strip is

Editors' choice



Heidelberg Linoscan F2400 XL

The Linoscan F2400 XL is an A3 scanner that doesn't trade-off features for size. It sports a 42-bit colour depth with a 3.7D range. In high-resolution mode it can scan up to 800-x-2,400dpi – making it almost as good as the Saphir HiRes.

The price may seem high, but competitors with half the features are almost as expensive. Even if they could match the F2400 XL in specifications, the LinoColor software is about as good as it gets for this kind of work.

An afternoon reading the manual will arm you with enough knowledge to get great scans. If you are not the manual type, Heidelberg, or your local dealer, should be able to arrange training.

Macworld buying advice As far as A3 scanners go, nothing we tested could match its features.



Microtek Artixscan 2020

The Artixscan 2020 is functionally identical to the Agfa DuoScan T2000 XL, the only real difference being the software bundle. The Artixscan, though, is £300 cheaper.

Bundled software includes ScanWizard Pro, Microtek's own Photoshop plug-in. It does an impressive job, but the SilverFast software from LaserSoft is more powerful. It automates any or all of the scanning process and is customizable. Novices can let the software make the decisions, while experts can adjust every detail. Agfa's bundled software is good, but not £300 better than SilverFast.

Macworld buying advice A smashing A3 scanner, and, with the free half-day of training courtesy of Microtek, it's one of our front-runners.



Microtek Artixscan 2500

The Microtek is spookily similar to the Agfa DuoScan T2000XL – because Microtek makes scanners for Agfa. This may explain how Microtek can undercut Agfa by a hefty £800.

The difference is in the software, and the 2500 is definitely worth the £800 saving. There's even a half-day's free training thrown in.

There is, however, one key difference between the Microtek scanners and its Agfa counterparts: like Doc Martins, they have bouncing soles. The feet are sprung so that vibration doesn't affect the scans. Whether vibration is a big problem, I'm unsure – but at least these scanners won't suffer from it.

Macworld buying advice At £800 cheaper than its DuoScan rival, this is a great deal.

Price	£4,995
Size	A3
Colour depth	42-bit
Dynamic range	3.7D
Standard resolution	800-x-2,400dpi
High-resolution mode	2,400-x-2,400dpi
Reflective scan-area	305-x-432mm
Transmissive scan-area	305-x-400mm
Interface	SCSI
Bundled software	LinoColor Elite; ScanOpen ICC Lite; Desktop FontExplorer
Contact:	CPS, 01242 285 100

Star Rating ★★★★★/8.9

Price	£4,199
Size	A3
Colour depth	36-bit
Dynamic range	3.5D
Standard resolution	667-x-2,000dpi
High-resolution mode	2,000-x-2,000dpi
Reflective scan-area	304.8-x-457.2mm
Transmissive scan-area	304.8-x-241.3mm
Interface	SCSI
Bundled software	ScanWizard Pro; LaserSoft Silverfast; Photoshop 5.0 LE; Microtek ICC Profiler
Contact	Microtek, 01908 317 797

Star Rating ★★★★★/8.8

Price	£3,199
Size	A4
Colour depth	36-bit
Dynamic range	3.4D
Standard resolution	1,250-x-2, 500dpi
High-resolution mode	2,500-x-2,500dpi
Reflective scan-area	203-x-355mm
Transmissive scan-area	203-x-304mm
Interface	SCSI
Bundled software	ScanWizard Pro; LaserSoft Silverfast; Photoshop 5.5; Microtek ICC Profiler.
Contact	Microtek, 01908 317 797

Star Rating ★★★★★/8.3

design

breakdown

specs

used, which shows a graduated tone from white to black. When the scan is produced, you can measure how far up the black scale the scanner can see before all appears 100 per cent black. The point at which everything appears black – which always comes before 100 per cent black is reached – shows the limit of the dynamic range, or maximum black. The same ability is measured at the white end of the test strip.

The difference between the two is the dynamic range.

Typical dynamic-range figures go from 3.2D to 3.7D in the scanners tested. As the maximum theoretically possible, dynamic range is 4.0D. Scanners that get as close as 3.7D are impressive. Although I haven't had the opportunity to run any of these models

in a head-to-head high-end drum scanners, it's likely many of them would fare well.

The Software

With all their technical sophistication, scanners also need some serious software to translate this into quality images. The aforementioned shortcomings of scanning software affect the usability of these scanners, but won't make a difference to the end result – if you are willing to invest some time mastering the settings.

There's no point spending £4,000 on a scanner that you can't use properly. Even the best scanner will output crummy results if you don't get to grips with the software.

Each scanner range has software included. Agfa uses its own FotoLook software and Heidelberg has its LinoColor package. Other vendors bundle third-party solutions with their scanners: Microtek uses LaserSoft's Silverfast software and Umax bundles Binuscan PhotoPerfect. The Epson Expression Pro simply includes its own plug-in for Photoshop.

LinoColor Elite LinoColor Elite ships with all the high-end Heidelberg scanners. It has all the key features you'd expect from high-end software: it does colour correction, has colour-managed workflows, but Heidelberg seems most proud of its ease of use.

Having seen LinoColor through its many versions, I must agree that it's more straightforward than before. However, for a novice, the options can still be daunting. At least this is easily remedied, although consulting the manual is compulsory – you aren't going to be able to guess your way through it.

The results achieved after a little tweaking of the settings were consistently good. Batch-scanning is easy. Once you have the images captured, minor adjustments, such as straightening an image and cropping, are simple.

Previous versions were pitched at intrepid colour experts only – but now, anybody willing to spend a couple of hours with a manual can be a colour expert too.

Binuscan PhotoPerfect All the Umax scanners tested came with MagicScan software, which is Umax-branded. This is simple to use and effective.

The best part of the software bundle, though, is Binuscan PhotoPerfect. This is a cut-down version of the full Binuscan product, but is still extremely good at colour correction.

Many colour professionals tell me Binuscan is no good because it messes with the colour without user input. Well, yes, it does, but its artificial intelligence makes some sound judgements about how an image should look and makes corrections accordingly.

This may upset these proud colour boffins – but as the software makes far

better decisions than the average user, why not let it? If you would rather use the manual controls then you can.

If you're working from flawed original images, for example, all the other scanning apps tested will reproduce the imperfections in all their grimy detail.

Binuscan, however, will brighten, sharpen and tweak images so that even over-exposures will look great. The interface may not be pretty, but who looks at the mantelpiece... quite.

Agfa FotoLook 3.5 FotoLook is probably the best of the own-brand scanning packages. It's simple to use – at least by the standards of the software tested: you only need the manual for occasional references.

Once you get to grips with the settings, it's possible to set-up FotoLook for less experienced users to use. The batch-scanning mode is extremely useful, but a tad more automation would help.

This is one application that boasts the ease-of-use that scanner users deserve. The entry-level Agfa scanners have excellent software with beautifully designed interfaces, so, if the guys that worked on that could endeavour to pretty-up the FotoLook interface, Agfa would be on to a winner.

SilverFast Microtek bundles SilverFast scanning software with its scanners. SilverFast is relatively easy to use in the context of high-end scanning software – and also offers automation.

Each setting associated with a scan can either be set automatically, manually or preset to do the same every time. This means that, if scanning a batch of transparencies, SilverFast will chug through them almost without outside help.

If you're confident enough to look under the bonnet, SilverFast is packed with high-end options that will tweak every aspect of a scan.

Epson TWAIN Pro The Epson plug-in is, predictably, the simplest software of the bunch. It has an uncomplicated interface, mostly because it lacks high-end features.

But as the scanner is a fraction of the price of the others, this should come as no great surprise. The real surprise is the quality of the scans. Even the basic colour-correction makes scans look really good. It doesn't quite compete with the big boys, but isn't too far behind.

Macworld's buying advice

Here are some things to remember when buying a scanner: Resolution is not the best – or even a good way – to judge a scanner. It will tell you by how much you can blow up the picture, but not how good the picture will be.

Bit-depth is a better way. 32-bit is good, 42-bit is better. The best way to judge the quality of a scanner is the dynamic range.



Microtek Artixscan 1100

The Artixscan 1100 is the model that inspired the DuoScan HiD. In fact, they're identical. Unlike the larger scanners that share a design, the 1100 is slightly more expensive than its Agfa compadré.

This makes the choice between the two come down to the software and the after-sales service offered. The software is similar, but the advantage is with the Silverfast software supplied with the Artixscan – even if the differences are minimal.

The service issue also to swings in Microtek's favour: The two-year Microtek Total Support warranty that comes with all its high-end scanners includes a new-for-old swap if the user experiences any problems.

Macworld buying advice At just £75 more than the Agfa, the Artixscan 1100 represents the better deal – even if Agfa is the better-known brand.

Price	£1,275
Size	A4
Colour depth	42-bit
Dynamic range	3.7D
Standard resolution	1,000-x-2,000dpi
High-resolution mode	n/a
Reflective scan-area	203-x-355mm
Transmissive scan-area	203-x-254mm
Interface	SCSI
Bundled software	ScanWizard Pro; LaserSoft Silverfast; Microtek ICC Profiler.
Contact	Microtek, 01908 317 797

Star Rating ★★★★★/7.8



Umax PowerLook 3000

This is a fine looking machine. It may appear similar to the Heidelberg Saphir HiRes because, as with so many scanner manufacturers, Umax makes scanners for others – including Heidelberg.

The major difference between Umax and Heidelberg scanners is the software. The Binuscan software supplied with Umax models corrects duff originals. The LinoColor software that comes with the Heidelberg models, however, will faithfully reproduce everything – even if it is the worst image in the world – unless instructed otherwise.

Colour veterans generally prefer to opt for the control that LinoColor offers, while newer users are happier to let Binuscan do the work.

Macworld buying advice There's very little to choose between the PowerLook 3000 and the Saphir HiRes – but newcomers to scanning may prefer its foolproof scanning software.

Price	£3,999
Size	A4
Colour depth	42-bit
Dynamic range	3.6D
Standard resolution	1,220-x-3,048dpi
High-resolution mode	3,040-x-3,040dpi
Reflective scan-area	216-x-297mm
Transmissive scan-area	216-x-297mm
Interface	SCSI
Bundled software	Umax MagicScan; Binuscan PhotoPerfect; CMYK&RGB.
Contact	Umax, 01344 871 329

Star Rating ★★★★★/8.6



Umax PowerLook 2100XL

An ideal workhorse for batch scanning, the 2100XL has a respectable 42-bit colour depth and 3.4D range. There are higher-quality models available, but if you need a high-volume, low-budget scanner this one's hard to beat.

It may be worth upgrading to Binuscan Color Pro to get the most from this machine, as it automates just about every aspect of colour-correction. For more information on Binuscan products see www.imcnet.com/binuscan/. If you don't need to enlarge original artwork regularly, this scanner is a good deal. And if you want to use LinoColor it's available from Heidelberg separately.

Macworld buying advice The 2100XL is half the price of the other A3 models tested. Even though this scanner is capable of only relatively low resolution – and has no high-resolution mode – it's still a capable machine.

Price	£2,199
Size	A3
Colour depth	42-bit
Dynamic range	3.4D
Standard resolution	800-x-1,600dpi
High-resolution mode	n/a
Reflective scan-area	305-x-432mm
Transmissive scan-area	305-x-432mm
Interface	SCSI
Bundled software	Umax MagicScan; Binuscan PhotoPerfect; CMYK&RGB.
Contact	Umax, 01344 871 329

Star Rating ★★★★★/8.2

design

breakdown

specs

A good dynamic range will show more detail in the highlights and shadows.

All the software is as powerful as it is complicated. Be prepared to read the manual, as this will ensure better results. Most packages work in the same way, using colour matching. If you're unsure

about anything, ask for a demo from your dealer. If you're paying as much as £4,000 for a scanner it's worth while visiting your dealer to see it. It's also a good idea to get them to demo the scanner on-site. Some dealers will be able to provide training – something also worth considering. **MW**



The ideal Web page redraws to fill any browser window, regardless of platform, monitor size or resolution. You can achieve this with HTML tables, which use percentages rather than absolute widths. Keep the following guidelines in mind:

- Create layouts that flow to the available browser window space by using percentages instead of pixels to specify the relative sizes of table cells.
- Toss in a little cellpadding to create margins between elements. Set the table border to zero to avoid a mechanical appearance.
- If you use a WYSIWYG editor such as Macromedia Dreamweaver or Adobe GoLive, the program will probably generate pixel-based layouts. You'll have to go into the HTML-source code and edit the widths by hand to replace the pixel widths with percentages.



This is an example of a flexible Web page in action – it changes as you resize the browser window. The code behind this page is shown below.

```
<table border="0" cellpadding="10" cellspacing="0"
valign="top" width="100%">
<tr>
<!-- Your content here. -->
<td width="70%" valign="top">
<a href="index.html">
<IMG SRC="logo.gif" width="100" height="50"
alt="Widgets.com, specializing in wacky, wonderful widgets!
Click here to return to the home page.">
</a>
<P>
Welcome to Widgets.com, your online source for wacky,
wonderful widgets
</P>
</td>
<td valign="top" width="30%" bgcolor="#336699">
<P>
This blue box is the sidebar that contains special information
about Widgets.com. It is 30 per cent of the width of the page,
regardless of the visitor's operating system or monitor size.
</P>
</td></tr>
</table>
```

page 98 ►

Designing flexible Web sites

Don't design with just Macs in mind.

By Jeffrey Zeldman

The beauty of the World Wide Web is that it reaches a staggering number of people. It has become increasingly important, touching all aspects of our lives. When designing a Web site, you want to reach a healthy chunk of the tens of millions of potential viewers.

Yet, if designers don't watch out for differences in the way the systems

treat the information developed on Macs, sites can look staggeringly ugly on other platforms. Because Microsoft Windows is the most prevalent platform on the Web, tweaking



your site so it looks as good on Windows monitors as it does on your trusty Mac is essential to maintaining a wide audience.

Even on one platform, there are significant differences between the two main Web browsers, Microsoft Internet Explorer and Netscape Navigator. For tips on dealing with these variations, see "Swat HTML bugs" in the *Macworld* May 2000 issue and on Macworld Online at www.macworld.co.uk/create.

Cascading style sheet	
Code	What it does
<style TYPE= "text/css">	Tells the browser to interpret the code that follows as CSS data.
<!--	Tells older, non-CSS-capable browsers to ignore what follows. Non-CSS browsers include Internet Explorer 2 and earlier, and Netscape Navigator 3 and earlier. Neither is widely used today.
P {font-family: verdana, arial, helvetica, sans-serif;}	Tells the browser that all paragraphs (P) will appear in the Verdana font if it's present on the reader's system. If Verdana is not present, the browser will use Arial. If Arial is missing, Helvetica will do the job. If none of these fonts is present, the browser uses the reader's default sans-serif font.
-->	Tells older, non-CSS-capable browsers that they can stop ignoring the code.
</style>	Tells all browsers that the CSS data is finished.

Just your type

Macintosh users often come across sites with tiny type. We squint, we swear, and then, if we're interested enough, we go to our browser's preferences option to increase font size. Most likely, the designers of these headache-inducing sites are unaware of the resolution difference between Macs and PCs.

The Mac OS defaults to 72 pixels per inch (ppi), where a pixel is the same as a point. So 12-point type is 12 pixels tall, 72-point type is 72 pixels (or 1 inch) tall, and so on. Windows users start off with 96-ppi resolution, and 12-point type in Windows is 16 pixels tall.

This difference means that in 4.0 and earlier browsers, what looks discreet on a Windows box is often illegibly small on a Mac. Conversely, type that's readable on a Mac is outsized on a Windows PC. In the Mac version of Internet Explorer 5 (IE5) this is no longer an issue, because its default setting is 16-pixel type at 96 ppi. Netscape has followed a similar

path in its new version of Navigator. This not only solves your problem as a Web user, it also helps you as a Web-site designer. By checking your work in IE5 for the Mac and Netscape Navigator 6, you'll get a much better idea of how your type will look on the Windows platform.

However, 4.0 browsers are still in use, so cross-platform size issues will continue to plague the Web. There are only two ways to avoid these problems.

The Zen approach Avoid setting sizes altogether, and specify font families in your Cascading Style Sheets (CSS). For more information on CSS, visit www.w3.org/style/css/ or read the "Fear of style sheets" tutorial at www.alistapart.com/stories/fear. See the sidebar "Cascading style sheet" for a breakdown of CSS basics.

Specifying font families ensures that your body text appears at a size each visitor will find comfortable. Most designers hate this idea, because we're used to the absolute control we've enjoyed in print. But it's the most compatible and foolproof approach.

The pixel-perfect approach

Sometimes you absolutely must control font sizes. In these cases, you need to specify pixels in your Style Sheet. (See the sidebar "Pixel-based style sheet".) Pixels are pixels, regardless of screen resolution, platform, browser choice, or browser version. This technique doesn't display properly in Netscape Navigator 3 or earlier, but the tiny percentage of your audience still using that browser will see their default font – and that's OK.

If the site fits . . .

You finish your site's master template and inform your Windows-using client. Minutes later, you get a phone call: "I have to scroll down to see the slogan!"

What happened? The Windows task bar

appears by default at the bottom of the screen, while Mac OS reserves the right side of the screen for icons representing your hard drive, saved files, and aliases. Your client sized his browser window so he can see crucial areas of his desktop, which means his browser window wasn't as deep as yours.

Similar glitches crop up when you design only for your monitor size. With a rigid Web layout, your site may appear to be shoved into the corner of a visitor's large monitor. Or it may be too wide for small monitors, forcing visitors to scroll left and right – or, more likely, encouraging them to leave.

Because of small monitors and browser chrome – the buttons and text fields used to navigate the Web – some visitors will have a usable area of less than 600-x-400 pixels. But if you design specifically for that space, your site may look ludicrous on a larger monitor at 1,600-x-1,200 pixels.

The answer is to embrace the fluid nature of the Web so that content reflows according to visitors' operating systems and window sizes. The sidebar on page 97 is a guide to making your site go with the flow.

The liquid approach handles the horizontal problem, but what about the vertical? If you don't want visitors to have to scroll down to see important content – such as navigation tools, logos, and headlines – place it within the first 380 pixels of vertical space.

Gamma trouble

Different platforms have different standard gamma-settings. Put simply, your Mac's default gamma of 1.8 looks brighter than the various Windows defaults. Ignore this difference, and your subtle earth tones will look like mud.

Cross-platform gamma compensation is

built into Adobe Photoshop 5.5 – which includes the Web-image editor ImageReady 2.0 – and Fireworks 2.0. If you don't have these programs, two low-cost shareware apps and the following steps can help.

One app is GammaToggle. You can download the \$5 shareware control panel GammaToggle FKEY from www.acts.org/roland/thanks/. Once you install it, you can press **⌘-shift-9** to toggle between Mac and PC gamma settings.

If you have older versions of Photoshop, you may want to use Furbo Filters. You can download the \$39 shareware Furbo Filters Webmaster pack from www.furbo-filters.com. (Disclosure: I helped create this application). Install it, and you can switch between Mac and PC gamma in Photoshop by choosing Filters: www.furbo-filters.com: Browser Preview.

To permanently set Photoshop 5.0 and later to the Windows gamma space – not recommended if you also design for print – take the following steps:

- Start Photoshop.
- Select File: Color Settings, RGB Setup.

- In the dialogue box that appears, set the RGB drop-down menu to sRGB.

- Go to Control Panels, and choose ColorSync.

- In the System Profile drop-down menu, choose sRGB Profile.

Colour my Web

Only 216 colours are guaranteed to display correctly in both Windows and Mac Web browsers. These "Web-safe" colours are called the Netscape Color Cube, or the Web-safe palette.

Use Web-safe colours whenever possible, particularly for large colour fields, typography, and backgrounds. Any other colour will dither – break into dots – on an eight-bit monitor, or shift – change to a colour you didn't intend – on a 16-bit system. See the image "Ugly colours" (above) for examples.

Fireworks and Photoshop 5.0 and later include the Web-safe palette – if your image editor doesn't, download it from www.lynda.com/hex.html. To prevent dominant colours from shifting when saving images as GIF files, work in 32-bit or eight-bit mode.

Beauty in the beast

Platform differences are a fact of life. The rise of Linux, the coming of Mac OS X, and the dispersion of the Web onto cell phones, Palm devices, and car tracking systems are enough to keep the savviest Web designer dancing.

But with the right strategy, you can accommodate these differences and make pages that are accessible to millions. And that's the real beauty of Web design. **MW**

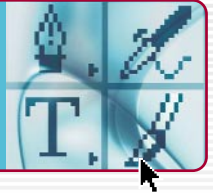
Jeffrey Zeldman is a Web designer.



Ugly colours

When colours dither, your Web page can look as though it's breaking out in blight.





1

Photo woes Any number of factors can affect the quality of a digital image – from limitations in the camera's hardware to the technical know-how of the photographer.



Before This photograph suffers from common digital-image problems. The most noticeable – its dark tones – results from poor light-metering. The image also has a preponderance of “noise”, caused by excessive JPEG compression and a relatively low resolution, of just under 1 million pixels.

Although you could avoid most of these problems by using the right digital camera, often, graphic designers have no control over the photographer's equipment. By the time the image lands on your monitor, all you can do is repair the damage.



After Following its Photoshop workout, the image appears brighter, smoother, and more detailed. Even though you may not be able to cure your tainted pixels completely with this process, you can get them out of intensive care and into something closely resembling a state of cheerful health.

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Doctoring digital images

Photoshop techniques to improve photos from any digital camera. By Deke McClelland

The digital-camera industry is booming. That's hardly surprising when you consider that a typical mid-range camera – priced between £400 and £700 – is not only fun to use, but also shoots million-pixel photographs that you can download, edit, and send to the far ends of the globe in a matter of seconds.

But working with digital cameras also has its drawbacks, especially for graphics and design pros, who must prepare the image to suit the high-resolution standards of print media. The fact is, even the top three-megapixel camera captures at best half the resolution theoretically attainable with run-of-the-mill 35mm film. To make matters worse, most digital photographs undergo a heap of JPEG compression, and all are up-sampled from the mere eight bits of colour data recorded by the camera's CCD – which captures the image – to the 24 bits that you see on your computer screen.

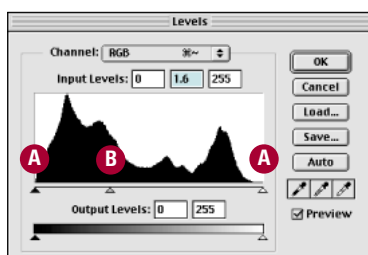
Although you can't magically add resolution to a digital photo, or restore entire elements that the camera missed, you can often salvage what may at first appear to be a lost cause. Using a basic regimen of blurring, sharpening, and blending in Adobe Photoshop, you can smooth over even the most extreme imperfections and enhance fragile detail in an image.

In addition to writing *Macworld Photoshop Bible* (IDG Books Worldwide, 1999), Contributing Editor Deke McClelland hosts *Total Photoshop* (Total Training, 2000).

2

Adjust levels It's fair to say that every digital snapshot requires some degree of colour correction. Levels and Hue/Saturation are arguably the two best tools for this purpose. The first of these, the Levels command, balances the image's brightness and contrast.

■ Before you begin adjusting the image, take a moment to save it under a different name so you don't overwrite the original. You can save in JPEG format – it's perfect for digital photos, after all – but make sure to increase the JPEG quality to 10 (the maximum setting) to reduce further loss of data.



■ Choose the Levels command (⌘-L) from the Adjust submenu of the Image menu. The Levels window displays a histogram of the image's highlights and shadows.

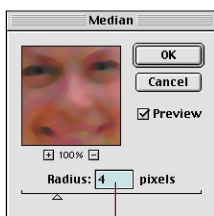
■ Crop the histogram by pushing the outer sliders (A) to the first group of pixels on either end of the histogram.

■ The most important option in the Levels window is the middle Input Levels value (B), known as the gamma value, which lets you lighten the mid-tones. Because the original photo is so dark, I raised the gamma of my image to 1.6 – a huge leap.

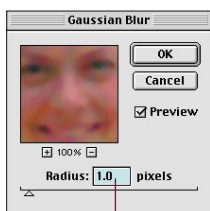


4

Smooth the photo The next step is to reduce the unwanted grain by using the Median and Gaussian Blur commands, and then to enhance the edge detail by using that most essential of all filters – Unsharp Mask. Together, these three operations will melt away random pixels and flow them into recognizable forms.



■ Choose Median from the Noise submenu of the Filter menu. Enter 4 in the Radius box and increase the value until the compression artifacts are almost entirely smoothed away (A). Don't worry if the picture appears doughy or indistinct – you'll recover the image's focus later.

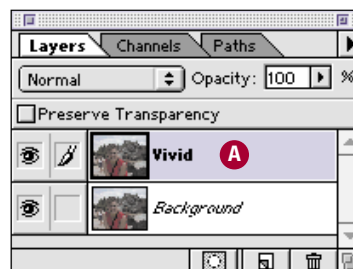


■ Median has a habit of generating its own inaccurate edges. To blur them away, return to the Filter menu and open Gaussian Blur from the Blur submenu. Apply the filter with a Radius value of 1.0 pixel (B). A tiny bit of blurring is all you need.

3

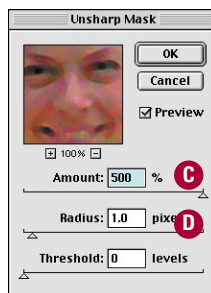
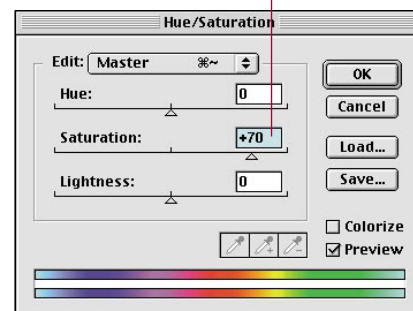
Saturate your colours The Levels command did lighten the photo's colours, but it also washed them out, making them appear greyer. To get more-vivid colours, use Photoshop's Hue/Saturation command.

■ Using Hue/Saturation has the side-effect of enhancing JPEG compression artifacts – often radically. So before applying the command, duplicate the image to a new layer. (Use ⌘-A to select the image and ⌘-J to copy it to a new layer.) Give the new layer a recognizable name, such as "Vivid".



■ In the Layers palette, highlight the new layer (A). Then choose Hue/Saturation (⌘-U) from the Adjust submenu of the Image menu.

■ Increase the Saturation value well beyond what seems sensible. For example, I raised the Saturation of this image to 70 per cent (B). Don't worry if the image looks absurdly grainy – you'll need an extreme effect when the time comes to blend this layer with the original image in Step 5.



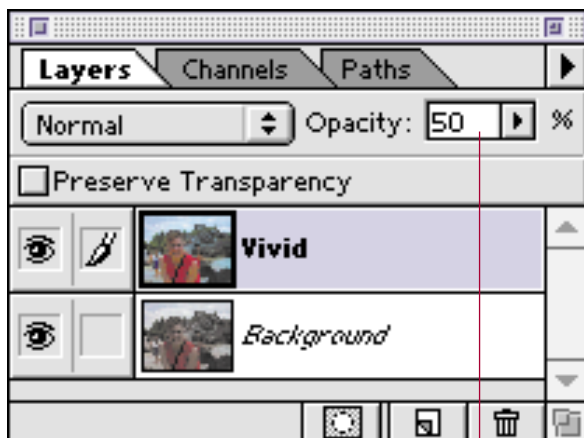
■ To regain a crisp edge, choose Unsharp Mask from the Sharpen submenu, under the Filter menu. For the best effect, I generally crank the Amount value to its full volume of 500 per cent (C). After so much blurring, you'll need all the sharpening you can get. Then set the Radius value to 1.0 pixel, matching the value of the Gaussian Blur filter (D).

■ The result is by no means a perfect image. The photograph should look oversaturated and gummy, as if molded out of brightly coloured plastic. You'll probably also continue to see compression artifacts – in fact, they may be more conspicuous than ever.



5

Blend layers You now have an extremely dark and an extremely bright image. To find a happy medium, you need to blend the exaggerated layer with the original image behind it by lowering its Opacity value.



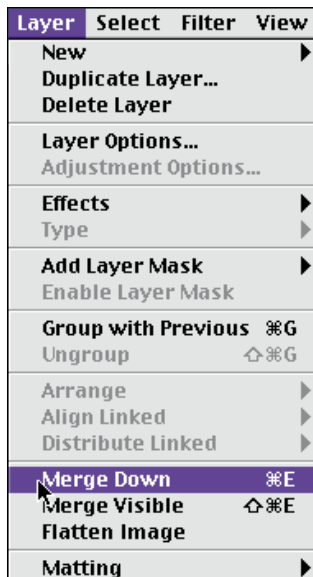
■ In the Layers palette, adjust the Opacity value of the corrected image's layer (A). If your original photo had few faults to begin with, make the opacity of the new layer low – say, 5 per cent, or less. A low Opacity value favours the original image over the filtered layer. Just a little dab of detail enhancement can make a perceptible difference.

Problem-prone images, such as this one, warrant higher Opacity values. A value of 50 per cent is about as high as you'll want to go – placing more weight on the extreme adjustment layer than on the original image generally results in a surreal effect. Bear in mind that what you're trying to achieve is not an image that seems radically corrected, but rather one that looks as if it didn't require correction in the first place.



6

Finishing touches Once you've found the best balance between the two images, you can merge them into a single layer for further adjustments.



■ Merge the two layers into one by pressing ⌘-E or selecting Merge Down from the Layer menu (A). This affixes the corrected layer to the original, creating a base image that will respond better to standard enhancements.

■ Now you can apply colour and focus adjustments as if you had scanned the image from a high-quality film source. I again boosted the saturation of my colours using Hue/Saturation and reapplied the Unsharp Mask filter – albeit far more subtly than before.

■ Depending on how your image looked before you started, you may end up with something that approaches absolute perfection. Although my snapshot remains rife with compression artifacts and strange colour aberrations, the image now looks far better than it did before.



More info: www.macworld.co.uk/create

Get more information on using digital cameras, including product reviews and image editing tips.



1

Gather your tools Here's a checklist of items for a shared Internet connection using a DSL or cable modem. It doesn't include modem equipment because your ISP provides that.

Ethernet cables

You need an ethernet-patch cable (with standard RJ-45 connectors) for each computer on the network. You need another cable to link your hub and the DSL or cable modem. The type of cable depends on which port of the hub you use – for the uplink port, use a patch cable; for any other port, use a crossover cable. Cables range in price from about £5 to £10.



Ethernet hub

A 10Mbps hub with four or five ports, such as Farallon's Starlet hub (www.farallon.com) or Asanté's FriendlyNet (Computers Unlimited, 020 8358 5857), cost around £82. You could spend more and get a 100Mbps hub for faster file-transfer between computers, but it won't speed up the Internet connection.

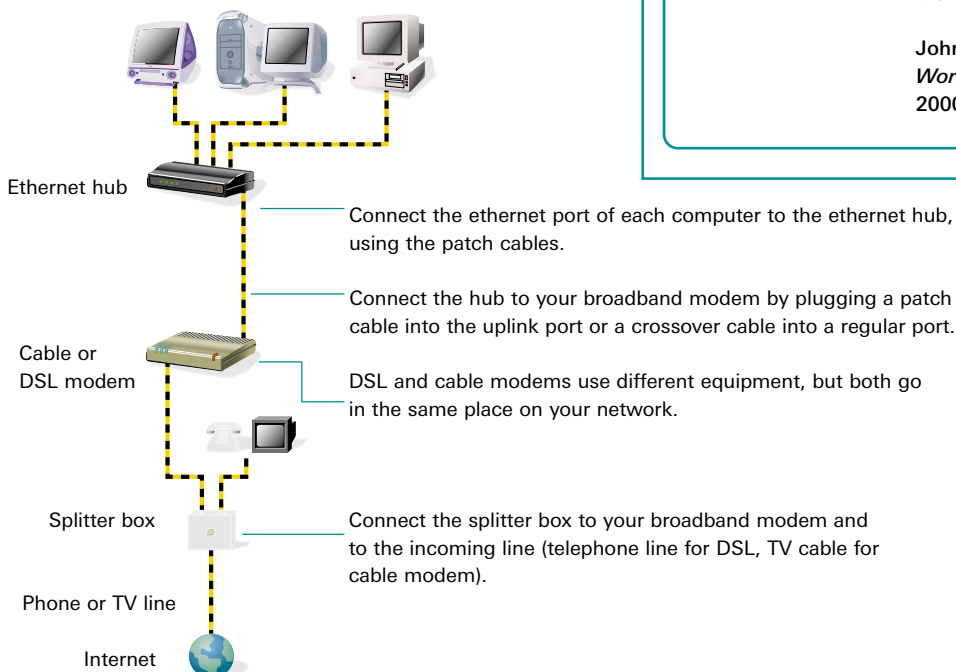


Internet gateway

Your gateway can consist of either hardware or software. Software tends to be less expensive, but requires that you have the gateway computer running for any computer on the network to access the Internet. In my example (Step 5), I use Vicomsoft's SurfDoubler (£32 for three users; 01202 293 233, www.vicomsoft.com).

2

Create a network This topology is for a broadband-modem network. The difference is that the modem connects to the gateway computer. If you have only two computers, don't use a hub – connect them with an ethernet crossover cable instead.



Simultaneous surfing

Share a single Internet connection among all the Macs in a house. By John Rizzo

These days, it seems like the whole world is on the Internet, or wants to be – which probably includes everyone in your house. Problem is, they all want to browse at the same time.

You could pay through the nose to set up an Internet connection for every person. But here's a better idea that will save you money – share a single Internet connection among multiple Macs and PCs. If you have high-speed broadband access, such as DSL or cable modem, your connection speed won't suffer from simultaneous surfing. Sharing a connection may have more impact on a dial-up modem connection, but you may still find it worthwhile as a low-cost alternative.

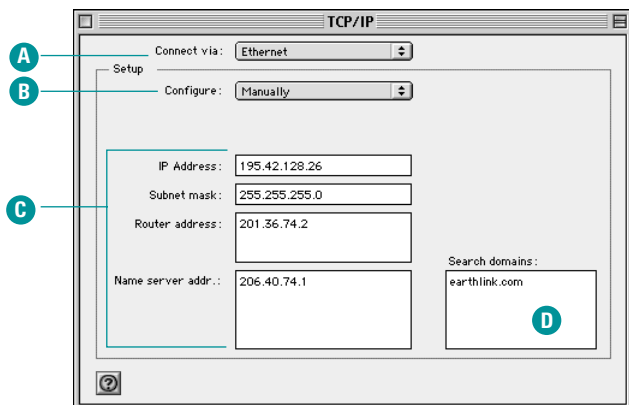
To share an Internet connection, you need a network to connect your computers and gateway software or hardware so you can interface between your network and the Internet. Once you've got these installed, you're on your way to Internet independence for the whole household.

John Rizzo is the author of *How Macs Work, Millennium Edition* (Macmillan, 2000).

3

Configure your gateway Mac Decide which Mac will run your gateway software and configure its TCP/IP control panel. For a DSL or cable-modem connection, this information depends on whether your ISP gives you a static IP address (a fixed number you enter) or a dynamic one (a number your Mac gets from the server whenever it connects).

- Open up the TCP/IP control panel.
- Set the Connect Via pop-up menu (A) to ethernet.

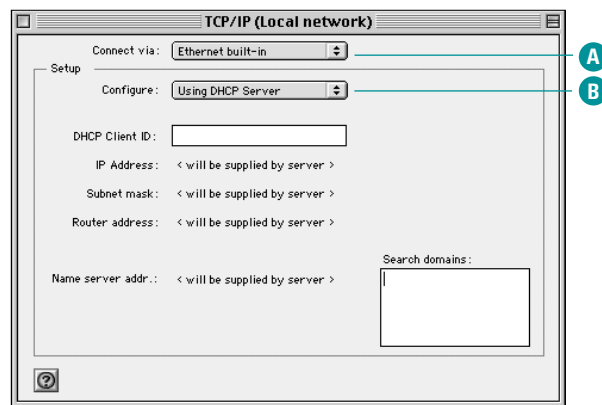


- If your ISP gives you a static IP address, set the Configure pop-up menu (B) to Manually. If your ISP gives you a dynamic address, set it to Using DHCP Server. For dial-up modems, use your existing configuration.
- If you have a static IP address, type in the numbers C your ISP gives you. Note that the name server address is also commonly called the DNS server address. If you have a dynamic IP address, you don't need to enter anything in these fields.
- Type the domain name of your ISP in the Search Domains field (D).

4

Configure the other computers Configure the other computers – those without gateway software – so that each one will look for a DHCP server – software that assigns an IP address, subnet mask, and name server address.

- On each Mac, open the TCP/IP control panel.
- Set the Connect Via pop-up menu (A) to ethernet built-in.



- Set the Configure pop-up menu (B) to Using DHCP Server.
- SurfDoubler and many other Internet gateways contain a DHCP server. However, it doesn't matter if the DHCP server or the gateway is running. If a Mac doesn't find a DHCP server, it configures the information in the TCP/IP control panel for you if you use the setup shown here.

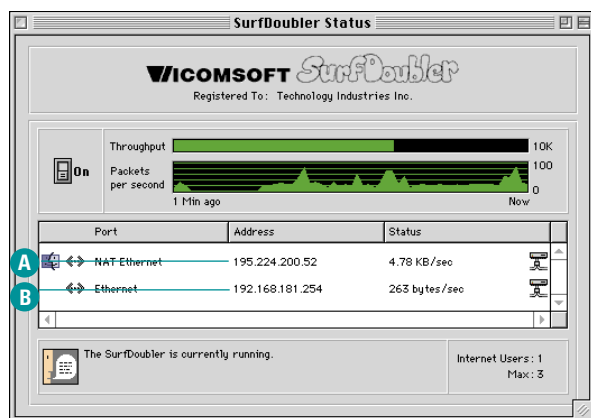
More info: www.macworld.co.uk/create

Learn more about networking products and find answers to your networking questions.

5

Install the gateway software Next, install and configure the gateway software on the chosen Mac. SurfDoubler configures the software for you after you run the installer.

It then launches the Vicomsoft Local Administrator utility and your Web browser so you can test the connection and modify the configuration.



- At the end of the installation process, SurfDoubler prompts you to test your connection. To do so, simply click on OK.
- When the gateway is running, the Vicomsoft Local Administrator utility displays two IP connections. The gateway uses the address next to the Mac icon (A) for your local network connection. It uses the other address (B) on the Internet.
- If your gateway Mac has a static IP address, you're all done. However, if the gateway Mac gets a dynamic address from your ISP, you have to disable the gateway's DHCP server. In the Vicomsoft Local Administrator utility, go to the Edit menu, select Preferences, and select the Network tab. Finally, deselect Enable DHCP Serving.

TIP: Installing SurfDoubler creates a new TCP/IP configuration called VICOM. You can switch between it and your old configurations by opening the TCP/IP control panel and pressing ⌘-K.



Email manners

A good email can win clients. By Jonathan Whelan

A good email message contains the right information in the right way for the right audience. It takes advantage of the strengths of email – ease of use, speed and cost.

Six things that really matter are: the address fields; the subject field; the message opening; the message itself; the message ending and your signature

The ease with which messages can be sent is one of the main contributors to the success of email. It's easier to send email than it is to send a letter. You have to fold paper, lick envelopes, walk to the post box, or even leave your desk.

Revealing too much

Furthermore, email cuts through the formality of traditional business letters. It tends to be treated more like a telephone conversation than the written word, and often people put things in email messages that they would not put in a business letter.

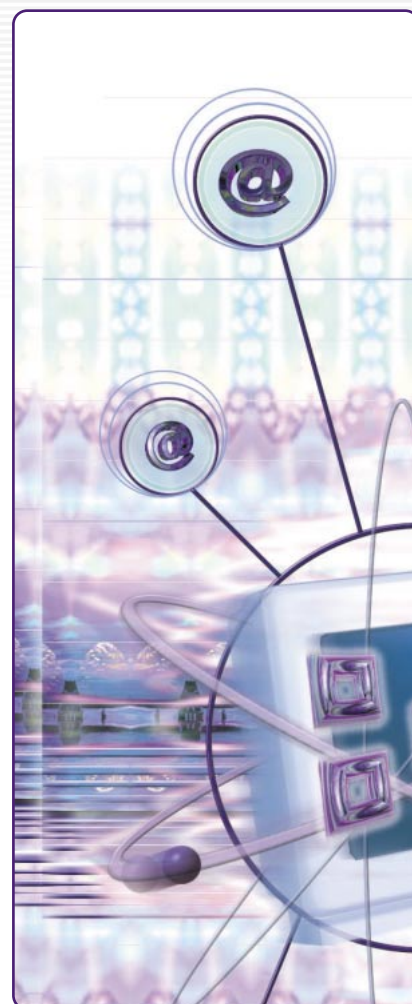
This informality is perfectly acceptable if you're sending a message to a colleague to invite them to lunch. But if your message is a response to a customer complaint, your informality may come between you and the loyalty of the customer.

On-message

Poor email messages can lose you business; good messages can win business. Poor messages are a negative advertisement for your company; good messages are a positive advertisement. Poor messages can put your company at risk; good messages can reduce risks.

It's just as easy to write good messages as it's to write poor messages. Good messages contain the right level of information – no more and no less – for the right audience for good reason. They are well laid-out and are written in plain language.

continues page 116 ▶



The address fields

Usually you can either key the email addresses straight into the To: and Cc: fields or you can select the addresses from a list or address book.

Email addresses can be a long string of letters and numbers, and they're not forgiving – if the address is not exactly right, the recipient is unlikely to get the message or, possibly worse, the message is sent to the wrong person.

Therefore it's easier to select addresses from an address list, especially if you will be sending your recipients more than one message.

However, if you select a recipient from a list, be sure to choose the right one.

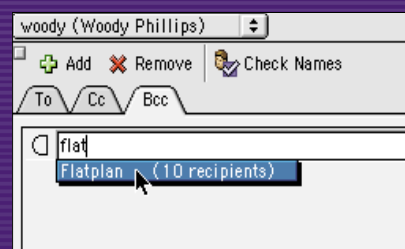
Some email systems have distribution lists that allow you to define a group of people and give the group a name. For example, sales team or first aiders.

Distribution lists are useful if you regularly send messages to the same group of people – for example, minutes of meetings. Warning: Messages are often copied to people “for their information”, just because it's easy to do so.

If your recipient isn't going to benefit from receiving your message, don't send it, even if there is no cost to you. You could be wasting their time – or even worse, their money – if they're paying for their messages to be downloaded. You might even waste your own time or money locating or keying in their email address.

If necessary, in your message make it clear why the message is being copied to some people – and you may want to state that you do not expect a reply.

If you're responding to a message



None so blind

Your email system may have a Bcc: (Blind carbon copy) field. The recipients listed in the To: and Cc: fields will not see the addresses listed in Bcc: field – hence the “blind” carbon copy.

which has been sent to more than one person, only send your reply to the whole group if it's necessary. Otherwise, consider replying only to the sender.

The subject field

The subject field gives you the chance to give your messages a useful title.

A good subject line helps the person you're sending the message to, and a bad one can annoy and frustrate them. Your message might be the only message that you send the person, but it may be just one of many in their in-tray.

Data overload

My boss receives about 30 messages a day, but she only reads the ones that she thinks are important – based on who sent them and the subject line. I need to make sure she reads my message.

Do not make assumptions about what the recipient might know of the subject of your message.

A subject line which contains only the word "Information" is almost worthless – it doesn't indicate whether the message is to provide or request information, or even indicate what sort of information. A better line would be

"Request for product price list" or "Sales figures for August". Your email system will limit the length of your subject line. Also, the amount of the subject line which your recipient sees may vary depending on which email system they're using, and on how they have configured their display. And, long subject lines may be truncated. Therefore you should limit the size of the subject line – about 40 characters is a useful limit.

You can use the subject line to indicate the level of importance of your message. For example, "URGENT: Stock delivery delayed". However, avoid subject lines which are designed to catch the eye of your recipient, but which have nothing to do with the message itself, such as "£50 note found under your desk". Even though you might consider it to be humorous, your recipient may not like being misled. Also, it doesn't help the recipient, or you, if the message is to be filed and referred to at a later date.

From: express34@bigfoot.com
Reply-To: 103636.2203@compuserve.com
Date: Tuesday, February 15, 2000 6:42 am
To: <Friend@public.com>
Subject: \$\$\$International Reps Needed\$\$\$

To: john.doe@macworld.co.uk
Cc:
Bcc:
Subject: G4 Cube product info

Informative

Even though a subject field may catch the reader's attention, if it doesn't say anything about the email it's no use. Putting £ or \$ signs into an email subject box (see top) is likely to make the recipient think they've been spammed (received unsolicited email). Keep the subject simple and to the point, and make sure it relates to the email (bottom).

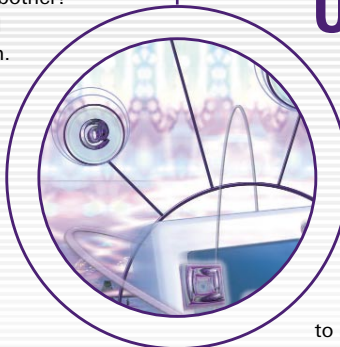
The message opening

The perceived informality of email leads many people to omit a greeting to their messages. After all, why bother?

Your recipient has their own individual email address, and messages are sent directly to them.

Nevertheless, a greeting such as "Dear Elizabeth", "Pat", or "Colleagues" can help to confirm to your recipient that the message was meant for them. Also, it provides a friendly introduction, in a similar way to a "Hello" at the start of a face-to-face meeting or a phone call.

If you don't know your recipient, include a greeting. Even if you do know your recipient, it may still be appropriate to include a greeting – especially if your message is being sent outside of your company. However, if you exchange messages regularly you may decide that a greeting is unnecessary.



The message ending

Unlike traditional business-letter writing, there are no hard and fast rules about how to end a message.

Nevertheless, you should include an appropriate ending with your message – such as Regards or Yours sincerely – unless you're sure it's unnecessary.

If you're sending a message to a recipient outside your organization, and it's the first message that you send to them, then a message without an appropriate ending can appear blunt.

Conversely, if you regularly send messages to a colleague within your organization, then an ending may be overkill. In many cases a useful ending is to state what you expect the recipient to do as a result of receiving your message.

Your signature

As with the message ending, you should include an appropriate signature with your message – unless you're sure it's unnecessary. If your email system allows you to include a signature automatically, you should consider using it, as it can save you having to re-key the same information for each message. However, if you want to include different signatures for different

types of messages – such as internal and external – your email system may not give you the option of specifying more than one automatic signature.

You can include your title, phone number, company-Website address and other details as part of your signature. However, keep your signature brief – say a maximum of four lines.

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The message

There are three key elements to the message itself which contribute to its readability: content, layout and writing style.

Content What you put in a message will depend on its purpose. Therefore, be clear about the purpose of your message. For example, are you informing, influencing or requesting information? Also, don't assume that your recipient will know why you sent the message to them – you may need to spell it out early in your message. And, if you expect your recipient to take any action based on your message, make it clear.

Don't just think about the message that you send – think also about the message that your recipient will receive.

Don't include information which is unnecessary. The ease with which you can include information in a message – by copying and pasting from other messages or files, attaching files or forwarding messages that you have received – is no justification for including that information.

When you reply to a message, many email systems will append the original message to your reply, and this can provide a useful history of an exchange of messages. However, in many cases this history is unnecessary, and only adds to the size of the message. Also, forwarding the contents of an earlier message to another recipient may be inappropriate if, for example, the information was sensitive and only intended for the initial recipient.

Macs allow you to copy and paste text between different applications. As long as you're able to select the text, you should be able to copy and paste it.

This can be particularly useful if you're writing a message which includes precise information – for example: facts or figures; quotations from reports; complex words, such as medical terms; combinations of

letters and numbers, such as part numbers; and email addresses. However, some material may be under copyright – in which case you will need to get permission to copy it, even if you're only distributing the information within your company.

If your message – or any attachments to the message – contains confidential information, and you want to make sure that only your recipient reads it, you will need to protect it.

Layout The way that you set out your messages can improve their readability and impact. Long messages may include many paragraphs, short messages may contain a single sentence, or even a single word – such as "Agreed" – or perhaps just an attachment.

Unless your message is very short, the contents should be structured, having a beginning, middle and an end – just like a business letter.

Use blank lines between greetings, paragraphs and your signature. Also, use mixed-case text – don't write messages only in upper case or lower case text, especially messages that you're sending outside your company. Upper case text can seem aggressive, and lower case text can give the impression that the sender was rushed, or even lazy.

If your email system supports Rich Text Format (RTF) or Hyper Text Mark-up Language (HTML) you can include bold text, italics, bulleted lists, tables and other text formatting, all of which can help the readability of your message. With HTML messages you can also include hypertext links. You can, for example, include in your messages your company's Web site address, so that if your recipient clicks on it, their Web browser displays the associated Web site. However, if your recipient's email system doesn't support

"Proper words in proper places, make the true definition of a style." – Jonathan Swift

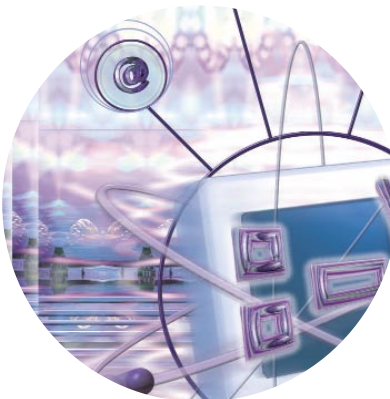
these formats, they will see only plain text – the message might also include control characters which interfere with your message.

Be careful if you use characters, such as », # or other symbols, as they might be displayed differently on your recipient's system.

If the layout or text format is important to your message, you should consider producing the text as a separate file – such as a word-processed file – and attaching it to your message.

Writing style The style in which you write your messages can have a significant impact on their success and the overall impression that you give of yourself and your organisation.

Although at times you may want to vary your style according to your audience, you should always consider writing clearly – in plain English.



Email can eliminate unnecessary office bureaucracy – wordy internal memos, customer correspondence and other external communications can be replaced by brief, timely messages, that can be sent to anyone who has an email address

However, there's also the tendency to overuse or even misuse email. Because email is easy to use, it's also easy to send message that are unnecessary, or messages that contain libellous, sexist, racist or other inappropriate material. Furthermore, personal messages and business messages compete side-by-side for the recipient's attention.

People can hide behind email, and send messages when face-to-face contact or a phone call would be more appropriate. To some people, status is measured by the number of

emails sent and received each day. Email is just like any other business tool: it should be used sensibly if its true value is to be realized. But many employers do not provide guidelines for their employees on the effective use of email in their company. Consequently, employees are operating in the dark – they may not be aware of the legal status of email, they may not realize that their external messages can equate to formal company correspondence, and they may not even know if they're allowed to use email for personal messages. **MW**

Writing Business Emails, by Jonathan Whelan, is priced £5 and can be bought from bookshops or direct from How To Books, Customer Services Dept, Plymbridge Distributors Ltd, Estover Road, Plymouth, PL6 7PY (01752 202 301).



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Q&A/tips

Handy Mac tips and readers' questions answered. By Christopher Breen

Anonymous email recipients

Q How can I create a mass mailing list on my iMac without revealing the list of recipients to everyone who received it?

A Fyans

A The simplest way to hide recipients' names is to put your own name in the message's To field, and use the Bcc (blind carbon copy) field for the recipients. That way, when the message arrives, recipients will see only your name in the To field and no other recipient's name – not even their own.

Microsoft's Outlook Express (www.microsoft.com) email application allows you to create group mailing-lists, but the method differs in Outlook Express 4.5 and 5.0. In version 4.5, you open the Contacts window, click on the Mailing List button to create a new mailing list and then drag-&-drop names from your contacts list into your new mailing list. In Outlook Express 5.0, Microsoft changed Mailing List to Group, and Contacts to Address Book. The Outlook Express crew also changed the way you add members to a group. To do so in 5.0, open the Address Book (⌘-2), click on the New Group button, enter a name for the group, click on the Add button, and type the first few letters of a recipient's name. A menu appears with a list of names from which to choose.

OE 4.5 and 5 allow you to hide the names of recipients when sending a message to a group – just look for the Hide Recipient Names check box in the Contacts or New Group window (see the screenshot "Join the group"). Although you can create groups with any email client you encounter – even America Online – not all of them let you hide recipients this easily.

Handy short-cuts

TIP **Word 98 capitalization** To change highlighted text to all caps, hit ⌘-Shift-A.

Netscape Communicator/Messenger 4.7.x

To mark a read message as unread, highlight the message and hit ⌘-\.

Final Cut Pro Hold down Control-Shift-Return to open the item editor.



Musical matter

Q I'm in a band with PC and Macintosh users who need to share music scores and sheets. I can't figure out a way to let everyone view the files, is there anything I'm missing?

J Walker

A Although you can use the following methods with just about any variety of file, music notation has its particular limitations. For example, unlike ASCII text, video, and graphics files, music-notation files don't have any standard format. When you create notation files in one application, you can rarely open them in another notation program. Therefore, your recipients can't edit as well as read these files, unless they have the right program. For example, if you create the file with Coda's Finale, the recipient must use the PC version of Finale.

But, there are a couple of ways to send read-only files. If you have the cash, invest in Adobe Acrobat 4.0 (www.adobe.co.uk). Using Acrobat, you can create PDF files that the free Acrobat Reader application can read on both Mac and Windows systems.

Unfortunately, at £165, Acrobat is a bit pricey for this kind of thing. For the real skinflint, I have two suggestions. The first is to save the notation file in a graphics format. Finale lets you save its files as

Join the Group

Create a group and hide its members in Microsoft Outlook Express 5.0.

EPS (PostScript) documents, and Sibelius's eponymous software offers PICT as a Save As option. Graphics applications such as Adobe Photoshop can convert EPS files into formats Windows can read — TIFF, GIF, or BMP files, for example — but if you lack such an application, Art Age Software's \$25 EPStoPICT (www.artage.com) will take you halfway there, by turning the EPS file into a PICT file. Windows can't read PICT files, but once you save a file in PICT format, you can use Apple's £22 QuickTime Pro PictureViewer (www.apple.com/ukstore) to export the file to a PC-compatible format.

Browse your hard drive

TIP Type "file://" into Microsoft Internet Explorer 5.0's Address Bar and watch it display your local hard-drive's contents. You can then browse through your folders and even view some files directly in your browser. Another handy tip: type file://*./ to see all the servers in your zone.

Ed Hargreaves

AppleWorks' user dictionaries

TIP You may have noticed that version 6 of AppleWorks doesn't recognize your old user dictionary — or any old dictionary, hyphenation, or thesaurus files, for that matter. Fear not, the user dictionary you painstakingly grew from a young sprout isn't useless to you.

Working with your old copy of ClarisWorks or AppleWorks, export the user dictionary as a text file and then import the file into a new user dictionary in AppleWorks 6. Note, however, that user dictionaries have a limit of 2,883 entries.

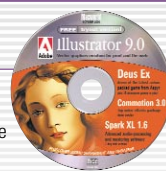
Translating in AppleWorks

TIP The DataViz translators of old work just fine with AppleWorks 6, but it's possible that even though these translators are properly installed on your Mac, they don't appear in Open and Save dialogue boxes. If this situation applies to you and your Mac, try this: Quit AppleWorks, open the AppleWorks folder, inside the Preferences folder, inside the System Folder, and drag the AppleWorks 6 Translators Cache file to the trash. When you next launch AppleWorks 6 it will create a new cache file, and your translators should now appear as expected in Open and Save dialogue boxes.

Missing printers

TIP Having performed a clean install of Mac OS 9 you may find that the icon for your printer no longer appears in the Chooser. This occurs because Apple has consolidated a number of its printer drivers, and some printers have been left out of the OS 9 install. If you run into this problem, reinstall your old printer driver — with these exceptions: Use the StyleWriter 1500 driver that ships with OS 9 if you have a StyleWriter, StyleWriter II, or StyleWriter 1200. Use the

XPress fix for Picture Usage problems



TIP QuarkXPress 4.11 users may have experienced an annoying bug that affects Picture Usage. Quark has told *Macworld* that it has had "major reports" of this bug, which causes document images that have been updated and collected on one machine to be listed as "modified" in Picture Usage on the machine to which the document has been sent.

After re-updating the images, attempts by the recipient to save the document are often thwarted, with XPress claiming it "Can't find required volume or file".

Quark has received an XTension to fix the pictures "modified" problem. It is called ToManFix and is included on this month's *Macworld* Cover CD. The XTension only works if installed on both sender and recipient machines.

At *Macworld*, ToManFix has solved most of our "modified" picture problems — although it still occurs from time to time. There is a workaround, though, that guarantees you can save a document after being forced to update images.

First, get in the habit of checking Picture Usage on all documents opened in 4.11. If images are listed as modified, go to the

desktop and create separate folders for the images and the document. When you revisit Picture Usage, pictures will now be listed as "missing". Highlight any missing image, click update and go to the folder you've just created for these images. XPress will ask if you want all other missing images to be updated. Click "Yes".

These images will again be listed as "modified" — but now you'll be able to safely update them and save any subsequent work.

Quark admits the "Can't find required volume or file" message is a separate issue — and I'm afraid it isn't limited to the Picture Usage scenario described above.

The company is working on a bug-fix — so in the meantime, here are a few suggestions to help avert the trauma of losing a day's work. First, get in the habit of saving work frequently — prevention being better than cure.

When faced with the dreaded "file or volume" message, go to the affected XPress file on your hard drive and double-click on it. This helps your Mac "re-find" the file. If this doesn't work — and you haven't saved the files for ages — I'm afraid it's a case of cut-&-pasting the page elements into a new file.

Color StyleWriter 2500 driver that ships with OS 9 if you have a Color StyleWriter 2200 or 2400.

Eight inches isn't big enough

TIP CD- and DVD-ROM media is starting to appear in interesting new shapes and sizes. Unfortunately, this same media can not be fed properly into the kind of slot-loading mechanism found on the iMac (Slot Loading) and Power Macintosh G4 Cube.

The tip, therefore, is this: Though sorely tempted you may be, avoid using discs that fall outside of the standard 77mm and 120mm specifications.

Missing power key

TIP Those with a Power Mac G4 Cube and a new Apple Pro Keyboard in their future will have to break the old habit of pressing a Power button on the keyboard to boot.

XPress-window hell

TIP If you have more QuarkXPress windows open than you know what to do with, pressing ⌘ -shift-option and clicking on the title bar of the top-most window will bring up a contextual menu. This will allow you to choose between your documents.

Mike Edwards



Size matters

Only standard-sized CDs and DVDs (77mm and 122mm) will fit the Power Mac G4 Cube. And, there's no power button on the Pro Keyboard, so you'll have to boot from the Cube.



Leave it

Apple's latest range of monitors is incompatible with older iMacs, so steer clear if you don't want to waste a load of cash.

The point of font management

TIP If you have a large font collection, the size of the folder can quickly get out of hand. Not so if you're using Adobe Type Manager: each font needs only one screen size – say 12pt – for ATM to be able to display the rest. You can bin all the other sizes in each folder, freeing up a lot of hard-disk space for all those Deus Ex game-saves.

Linda Steward

Colour me extended

TIP To keep your sanity when installing a lot of software, it's a good idea to colour all your extensions and preferences using the Label command in the File menu (Mac OS 8.1 and above) before you start. Any new items that go into these folders won't be labelled, so you can easily find and bin them if they give you grief.

Martha O'Connor

MP3 conversion

TIP It's easy to convert your MP3 files to audio and transfer them onto a CD.

Adaptec's Toast will convert your files for you and burn them straight onto your CD – or you can use QuickTime Pro, or the free MPEcker Drop Decoder (available from www.anime.net/~go/mpeckers.html) to convert your files. After you've converted your MP3s to AIFF audio files, simply arrange the playlist (below) in Toast, pop in a CD-R (not a CD-RW), and hey presto! It's worth noting that any imperfections in the original MP3 – such as pops or skips – will all come out in the finished AIFF file, so make sure your tracks are clean. It's also worth restarting your computer before you burn the CD – this frees up the RAM and reduces the chance of any drop-outs when burning.

Jonathan Seff

Don't get a handle on things

TIP The Power Mac G4 Cube sports a release latch that looks an awful lot like a handle. It isn't one. That

release latch is there to help you extract the Cube's innards from its outards. Should you use it as a handle and press the release latch, the innards and outards will separate and the inevitable force of gravity will propel the portion you aren't holding to the ground – likely scuffing (or worse) the outer case.

Print from Outlook Express

TIP Outlook Express doesn't offer a clean means to print the contents of your Address Book. However, with the help of a free piece of software, there is a way.

First, download a copy of Palm Desktop from Palm Computing (www.palm.com). This free personal-information manager has far more extensive printing capabilities than Outlook Express. Export your Outlook Express addresses using the Export Contacts command found under the File menu. Open Palm Desktop and use the Import command to bring your Outlook Express addresses into Palm Desktop.

You'll need to muck about with the fields to make them match up, but doing so shouldn't take more than a few minutes. Once the addresses are imported, you can format and print them in several different ways.

Monitor mayhem

TIP Apple's new monitors (above, left), which bear the Apple Display Connector (ADC), may be lovely to look at, but they have their limitations – specifically, that this connector makes it impossible for the monitors to work with Macs that lack a compatible connector. Therefore, if you own an iMac DV that bears a VGA-video connector – used for video mirroring – forget about buying a currently shipping Mac monitor. These iMacs only support monitors with VGA connectors and there is currently no ADC-to-VGA adaptor on the market.

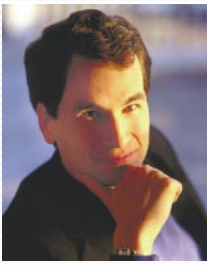
Uninstall iMac update

TIP If, in the course of mucking about with your iMac, you've installed iMac Update 1.0 into an iMac in which it shouldn't reside – a slot-loading iMac, for example – and the iMac doesn't boot as it should, you need to restore the original file. Here's how:

Boot your iMac from the Software Install CD that shipped with the computer by holding down the C key as the iMac starts up. Open the System Folder on the CD and drag the Mac OS ROM file from CD's System Folder to the System Folder on your iMac. You'll be asked if you want the file you've dragged over to replace the file on the hard disk – click OK. Now restart your iMac – and it should boot just fine.

	1. 01 Help on the Way.mp3	4:36	5.3 MB	160 kbps
	2. 02 Slipnot.mp3	8:07	9.3 MB	160 kbps
	3. 03 Franklin's Tower.mp3	14:50	17 MB	160 kbps
	4. 04 Same Thing.mp3	7:12	8.3 MB	160 kbps
	5. 05 Althea.mp3	9:29	10.9 MB	160 kbps
	6. 06 Masterpiece.mp3	5:26	6.3 MB	160 kbps
	7. 07 Loose Lucy.mp3	7:37	8.8 MB	160 kbps
	8. 08 Let it Grow.mp3	13:15	15.2 MB	160 kbps

Macworld's deputy editor David Fanning and contributing editor Christopher Breen answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send mail electronically, marked Q&A in the subject line, to qanda@macworld.co.uk. We pay £25 for each tip published here. We cannot make personal replies, so please do not include a stamped-addressed envelope.



DAVID POGUE is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997) and *The Microsloth Joke Book* (Berkeley, 1997). His most recent books are *Mac OS 9: The Missing Manual* and *iMovie: The Missing Manual* (both Pogue Press, 2000).

Dear Rammy

Parenting magazine has one. *Men's Health* has one. Almost every newspaper has one. So why shouldn't *Macworld*, too, have an advice column? It'll be great: Readers write in with their Mac-related love triangles, points of etiquette, and moral dilemmas. (No technical questions – too boring). Everybody wins: the magazine fills a page, the letter writer gets a solution, and you get to read about the misery of others. Shall we begin?

Dear Rammy, I share a Power Mac with my new wife. To prevent domestic squabbles, we've been using Mac OS 9's Multiple Users feature to keep our environments and files separate. I gave myself the Owner account, so I'm the only one who can change the settings. But she says if I really loved her, I'd make her the Owner and myself one of the underling accounts. We've been married only six weeks, but this one could be the deal-breaker. What to do? – *Unhappy*
Dear Unhappy, If I've said it once, I've said it a thousand times: Don't share a Mac with someone you love without first signing a prenuptial computer agreement. This kind of thing would be a moot issue if you and your wife had known about each other's Macintosh needs going in.

At this point, I advise you to enlist the aid of a certified Apple couples therapist. For a fee, these trained professionals will visit your home, replace any hockey-puck mice with the new Optical Apple model, make themselves your Mac's Owner, and give both of you equivalent underling accounts.

Dear Rammy, I love my iMac. Literally. I've dated hundreds of men but have never met one who's as reliable, friendly, and committed as this machine. He's gorgeous, with a sculpted, hard body, and he's hot – we're talking body temp of 120, easy. (My iMac has no fan. Except me). I've rigged him with AppleScripts that make Macintalk tell me what a wonderful woman I am, how brilliant and charming I am, and so on. And the Bruce voice I use even has a cute European accent!

My friends tell me that I should be out there cruising the bars for "real" men instead of having all-night talks with my iMac, playing games with him, and sometimes taking him to a bed-and-breakfast for a weekend. But I say I've got it made. What's your take

– is it somehow unnatural to fall for such a colourful companion? – *Puppy Love in Petts Wood*
Dear Puppy, Falling in love with your Mac is nothing to be ashamed of. In fact, hundreds of thousands of people live completely fulfilled lives alone with their Macs. If friends think you're coming unhinged, get new friends.

Dear Rammy, My buddy Frank gave me a copy of Photoshop. When I had a problem, I called Adobe for tech support, but because it was Frank's copy and I was using Frank's serial number, I had to pretend that I was Frank. I gave them Frank's name but my own phone number and address. Pretty soon, I started getting junk mail and special offers, even from other companies; I couldn't change my story at that point, so I continued to masquerade as Frank.

Eventually I was given graphic-design jobs and even a couple of awards, all as "Frank." And then, last week, I won £200,000 in a MacSuperstore.com sweepstakes – as Frank. I'm getting nervous about maintaining this dual identity. – *Imperfectly Frank*
Dear Frank, You certainly should be nervous! You can't keep living a lie; you'll go quietly insane. I think that, deep down, we both know exactly what you've got to do to make things right. Head directly to the county department of records and get your name legally changed to Frank.

Dear Rammy, My teenage son has discovered that whenever he prints over his AirPort wireless network, our next-door neighbour's garage door opens and closes. So now he makes printout after printout, all day long, just to drive the neighbours wild. What should I do? – *Neighbour in Newcastle*
Dear Neighbour, Tell your son to print blank pages. That way, he won't use up the ink cartridge and he can use the paper over and over again.

Dear Rammy, I came home early from work one afternoon to find my girlfriend on AOL. There she was, in a private chat room called 25 and Beautiful, seducing some guy with some of the juiciest language you can imagine. I'm crushed and heartbroken! – *Betrayed*

Dear Betrayed, What's her screen name?

MW

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